

THE OILSEED TRADE OF INDIA

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FOREWORD

by

*Dewan Bahadur Sir T. Vijayaraghavacharya, K.B.E.,
Ex-Vice-Chairman, Imperial Council of Agricultural Research.*

I have devoted some time and care to the reading of Mr. J. C. Bahl's book, "The Oilseed Trade of India," and come to form the opinion that it is a noteworthy contribution to the scanty literature on the subject. It is not adequately realised, what an important item the oil-seeds of India, with the group of rape, mustard, linseed in the North and groundnut, castor and coconut in the South, with sesamum and cotton seed, constitute in the trade, internal and external, of India. Though the exports of oil-seeds out of India have, on the whole, decreased since the War, there has been a marked increase in the case of groundnut, while there was a remarkable revival of linseed in 1933-34. The quantities of oil-seeds crushed internally for Indian consumption are increasing, apparently due to the demand in the soap-making and the vegetable ghee industry. All this change and fluctuation make the subject one of interest and importance, and I am glad that so careful and painstaking a student as Mr. Bahl with his expert training in the Sydenham College of Commerce and Economics, Bombay, has selected it for his special study. The result is a book packed with information which I feel will be of value to the members of the trade and to the students of commercial questions in general. I think this is the first time, that all the oil-seeds of India have been dealt with comprehensively in one view; and I feel I can congratulate Mr. Bahl on the result of what doubtless has been considerable expenditure of time and effort intelligently applied. The value of the book is enhanced by the frequent apposite references to extra-Indian conditions.

T. VIJAYARAGHAVACHARYA.

*Simla,
January, 1938.*

INTRODUCTION

by

*G. N. Chapman, Ex-Secretary, International Association of
Seed Crushers, London.*

Having been actively engaged for over fifty years in the Grain and Oilseed trade, both on the Continent and in London, it gives me great pleasure to write a few words of introduction to Mr. J. C. Bahl's book, "The Oilseed Trade of India." I consider that he has produced a most complete and valuable record of Oil-seeds from the time of their growth until the matured seed has been converted into oil and the residue has become food for cattle, in the form of cake, or fertilizer for the land. In dealing with contracts, and their many intricacies and difficulties, Mr. Bahl has given most helpful guidance. It is, interesting, and certainly not surprising, to read that this book has meant six years' work to the Author; it is much to his credit that he undertook it as a duty to his professor and brought it to such a successful conclusion. The result has been a comprehensive and reliable record to be used, not only as a book of reference for students, but one which, owing to modern development of science, should appeal to a much wider public. It is written in a most attractive and readable style and gives to those who have never been to India, an idea of the variety of the commercial customs and activities in that vast country. I am much impressed with the amount of detailed information the Author has collected from such widely distant centres. On the other hand I do think that so many different customs and such a diversity of weights and measures in the various provinces of ~~India~~ must be detrimental to the development of trade; and that it would be in the interest of the country if more uniformity were introduced.

Mr. Bahl has obviously made a most extensive study of his subject and the fact that, as far as I know, his book is the only one published containing such information, adds greatly to its value. I would like to see it in all offices of those who, here in Europe, have any connection with trade in Indian produce.

G. N. CHAPMAN.

24, Saint Mary Axe,
London E. C. 3,
March, 1938.

PREFACE

No explanation is needed for bringing out a work on a subject which, though of great national importance, has suffered from almost complete dearth of literature. Oil-seeds occupy an important place among the agricultural crops of India and have formed an important item of India's export trade. Of late, they have formed the subject of International Trade Pacts and Agreements. They are, because of their being the basis of one of the key industries, *viz.*, The Vegetable Oil Industry, sure to play an increasingly important part in the future Industrial India. But no systematic and comprehensive survey, embracing study of the subject and its problems from field to the factory, has so far been undertaken either by Government or by any public body, with the result that an asset of great national importance has been relegated to a comparatively unimportant position. It was with a view to fill this gap and to bring out the commercial and industrial importance of this valuable national asset that I, in consultation with a revered professor of mine, took up the study of the subject which forms the main theme of this volume. Soon after giving my word of honour to my professor I realised the immensity of the task, but I took the words of my professor in the spirit of *guru dakshina*, and applied myself diligently to it. I have, by this time, devoted several years to it, and now feel, that I have carried out the commands of my *guru*.

My work in this connection consisted of two parts, one of in-door study, and the other of out-door observation. The former required the study of the literature available on the subject, whereas the latter required the study of business methods in the oilseed trade. To carry out the second part of my work faithfully and successfully I had to make an extensive tour of the hinterland of Bombay and study on the spot the chief representative oilseed markets. This I did in four instalments. My first tour was directed towards the Southern Maratha Country, where I studied the markets of Sangli, Jaysingpur and Kolhapur, etc. My next visit was to the markets of Patan, Harij, Deesa, Mehsana and Sidhpur in the North of the Bombay Presidency. Third time I went to study the markets in Rajputana and the Central India States, and visited the markets of Kotah and Baran. The last instalment of my tour was recently

completed, when I toured the Central Provinces and Berar and studied the markets of Amraoti, Akola and Badnera. A complete description of the organization of these markets appears in Chapter III of this work. I must admit, that I owe the success of this tour to the kindness of Messrs. Kilachand Devchand and Company Limited, Bombay, who very willingly gave letters of introduction to their agents at the several markets and even made arrangements for my stay.

With a view to studying the Bombay Oilseed Market, I had to seek the help, assistance and guidance of several commercial organizations looking after the interests of the Oilseed Trade, *viz.*, the Grain Merchants' Association, the Seeds Traders' Association, the Grain and Seed Brokers Association, the Marwari Chamber of Commerce, the Indian Merchants' Chamber and the Bombay Chamber of Commerce. I take this opportunity of expressing my sincerest thanks to the Secretaries of these Associations, who very willingly placed at my disposal all the information that I required in connection with the work in hand. I also acknowledge my indebtedness to the Grain Merchants' Association, the Seeds Traders' Association and the Marwari Chamber of Commerce for their substantial financial help towards the publication of this work.

My sincerest thanks are due to those who in their public or private capacity placed at my disposal useful information regarding the Oilseed Trade of India, but for which my work would have suffered from incompleteness. I take this opportunity of mentioning the names of Mr. Ratilal M. Gandhi, M.L.C. (Bombay), Mr. P. A. Narielwala of the Tata Oil Mills Co., Ltd., Mr. H. C. Mehta of Messrs. Kilachand Devchand & Co., Ltd., and the managers of Messrs. Volkart Bros., and Messrs. Ralli Bros., who were particularly kind to me in this connection. My thanks are also due to Mr. G. C. Nagamani for the get up and printing of the book.

The author acknowledges his indebtedness to the University of Bombay for the substantial financial help it has given towards the cost of publication of this work.

Before I conclude, I take this opportunity of acknowledging my deep debt of gratitude to Mr. M. J. Antia, M.A. (Bom.), M.A., LL.B., (Cantab.), Bar-at-Law, I.E.S., Principal, the Sydenham College of Commerce and Economics, for his very valuable guidance and moral encouragement in the preparation of this work, but for which it would not have seen the light of the day.

*Government Commercial Classes,
Bombay, April, 1938.*

J. C. BAHL

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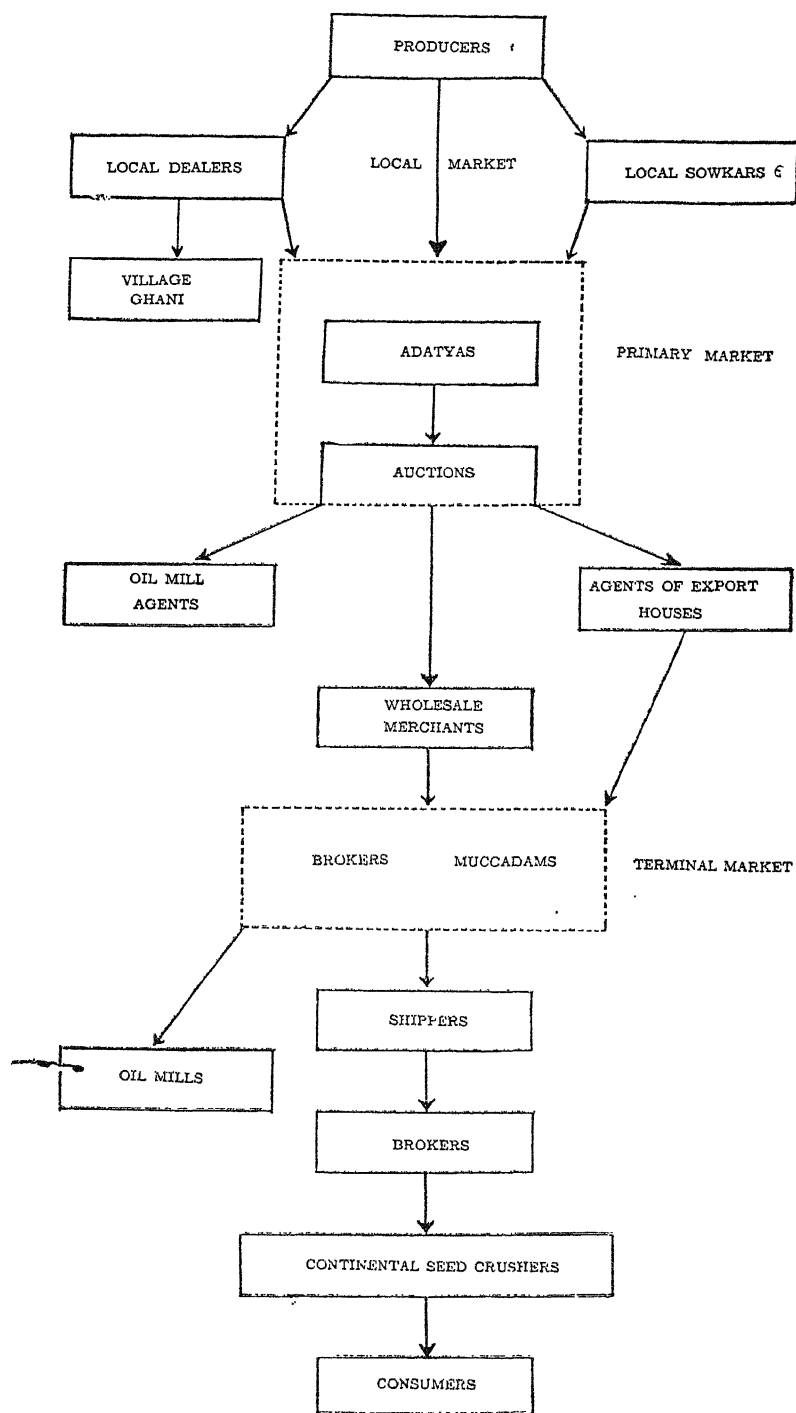
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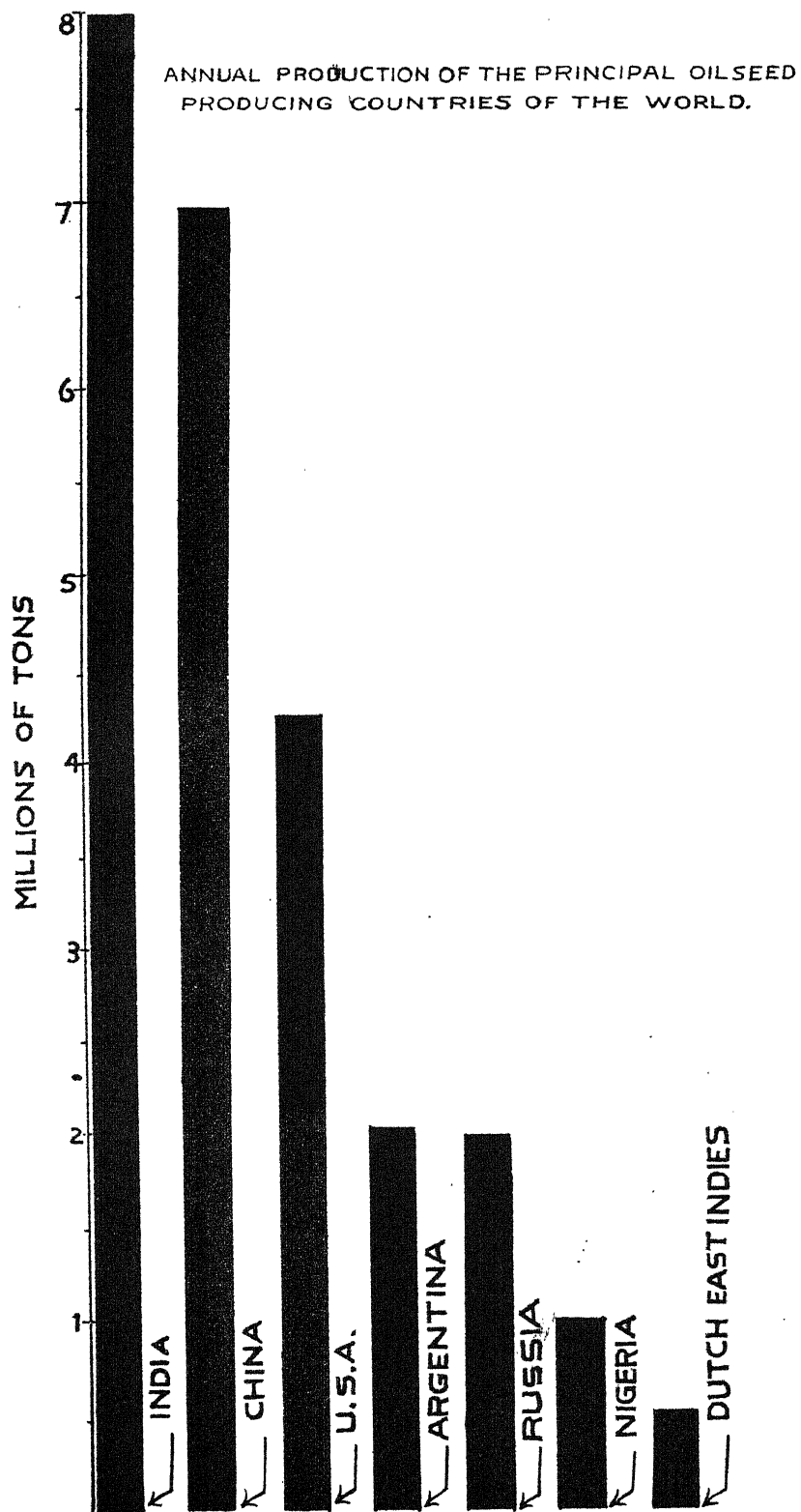
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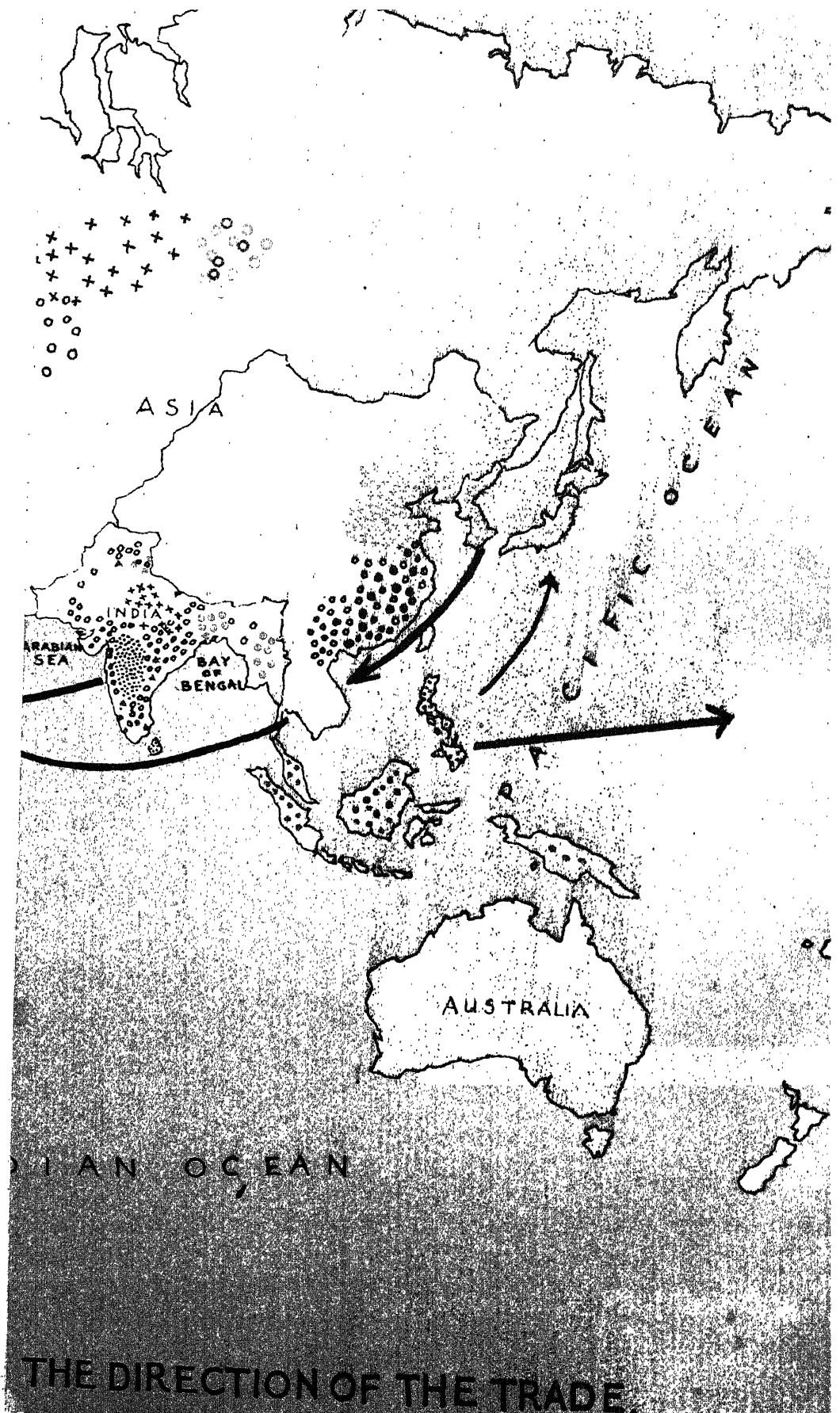
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TRADE ORGANIZATION CHART FOR OIL-SEEDS







CHAPTER I

WORLD PRODUCTION & TRADE IN OIL-SEEDS

General.—Oils and fats are very widely distributed in nature. They occur in plants, animals and fishes. In plants, oils occur chiefly in the seed kernels, though the fleshy pulp of some fruits—e.g., olives and palm fruits—is also oleaginous. In marine animals, such as the whale, oil is present in the blubber; in terrestrial animals, fatty tissues occur in various parts of the body; in many fishes, the liver is an important source of oil. Oil is also present in many of the lower forms of life, such as the yeasts and even in bacteria. But the most important source of supply of oils on a commercial scale is the seeds or seed kernels commonly known as “oil-seeds.”

Antiquity of Oil-seeds.—Oil-seeds play an important part in the role of human life, and can, very rightly, be placed next to food satisfying the needs of man. Mr. G. N. Chapman, the Secretary of the International Association of Seed Crushers, in his series of lectures delivered at the City of London College, said: “Oil-seeds are one of the oldest products of this earth. They could be traced even to the days of Bible history, when the earliest manufacture of all, viz., the grinding of wheat into flour was succeeded by the production of wine to make glad the heart of man; and oil to give him a cheerful countenance. Probably, the oil alluded to was the product of the olive, but there is reason to believe, that whereas the production of flour and the production of wine were manufactures confined to the household, the production of oil from the olive was the first trade actually carried out for barter.”*

References to oil-seeds are not wanting in Sanskrit literature. We read in *Sushruta*, the oldest treatise on medicine in India, about the uses of oil-seeds and oils in medicines.

Early Trade in Oil-seeds.—Although there is ample evidence to show that oil-seeds are very much older than the Christian Era, International trade in oil-seeds seems to have been of recent origin, having attained some size with the advent of the Industrial Revolution. It was at the end of the 17th Century that the attention of the Continental countries was directed towards the cultivation and crushing of oil-seeds like linseed, rapeseed, etc., because of the scarcity of olive. These seeds were crushed in Holland in the windmills, so much so that in 1815 A.D.† there were about five hundred windmills crushing seeds in that country. As the demand for oils increased the seeds began to be imported from countries in the Near East, and from the East and Far East.

* G. N. CHAPMAN, *Organisation and Business Methods of the Oilseed Trade*, p. 1.

† *Ibid*, p. 5.

THE OILSEED TRADE OF INDIA

India seems to have developed trade in oils and oil-seeds much earlier than any other country, although it was not on a large scale. In an article on "Our Countrymen in Kenya" in the "Indian Review," December, 1928, Mr. R. J. Udani, Secretary of the Indian Chamber of Commerce, London, wrote as follows: "A Greek merchant who visited the East Coast of Africa about 60 A.D. wrote, 'There are imported into these places, Indian iron and steel, Indian cloth, wheat, rice, clarified butter, sesame oil and honey'."

It was from the commencement of the present epoch (1870), that India entered on her career "as one of the largest merchants in the world in food grains, fibres and other great staples of universal consumption." "Indeed the first true beginnings of the great development of nearly all the staples of her export trade: jute, wheat, cotton, oil-seeds and tea, commodities which nowadays figure so conspicuously in the world's markets, are to be traced from about this date."*

Growing Demand for Oil-seeds.—Recent developments in the industrial world have greatly stimulated the demand for oil-seeds. In the course of half a century the cultivation of plants yielding oil-seeds for commerce has made considerable progress. The production has gone up by leaps and bounds due to intensive as well as extensive farming all over the world, and still it appears, that supplies of oil-seeds, especially in certain groups, are not keeping pace with the growing demand for the products manufactured from them. The main reasons for this large increase in demand are:—

(1) Rapidly increasing demand for edible fats brought about partly by the shortage in the supplies of butter caused by the diminution in the world's herds of cattle; and partly by the constantly rising demand for fats due to the gradual improvement of the standard of living in all countries. A large part of the oil-seeds of commerce is employed for the extraction of oils and fats, and the proportion so used is increasing steadily. Oils such as those of rapeseed and linseed, which, until recently, had been only used for industrial purposes in Europe, can now be so efficiently refined as to be employed in making margarine, and large quantities of rapeseed oil have been used in this way in recent years, especially on the Continent. Cotton-seed oil and other oils also can now be converted by a process of hardening by hydrogenation into solid fats, thus adding to the world's resources of solid fats suitable for edible purposes.

(2) Another very important reason for increase in the demand for oil-seeds is the variety of uses to which vegetable oils have begun to be put industrially. Large quantities of oils are used nowadays in the manufacture of soaps in the course of which glycerine is obtained as a by-product. Again, large quantities of oils and fats are used as lubricants the demand for which is increasing every year on account of the greater industrialization of the world. Mention may also be made of the varnish and paint industries, for which drying oils, such as those

* P. RAY, *India's Foreign Trade Since 1870*, p. 8.

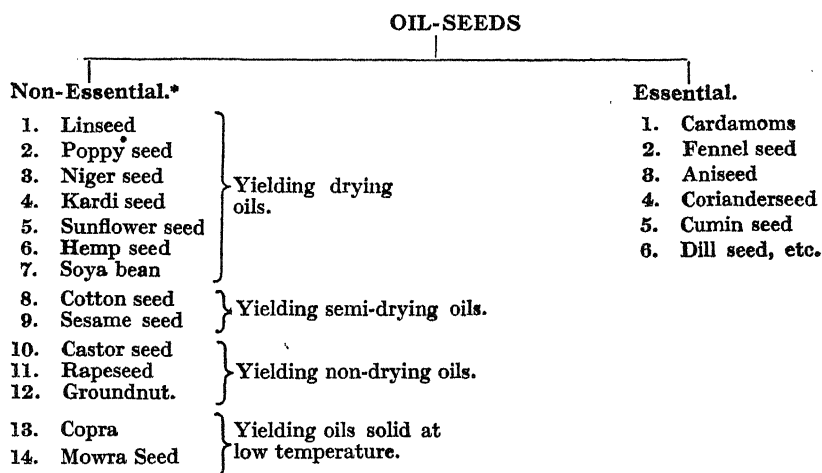
WORLD PRODUCTION AND TRADE

of linseed and poppy seed are essential. Even the residue—cake or meal—left after the expression or extraction of oils and fats from oil-seeds constitutes an asset of ever-increasing importance for feeding cattle, and is, therefore, indirectly of great importance to human beings.

CLASSIFICATION OF OIL-SEEDS

Classification by Technologists.—Oil-seeds have been classified from different points of view. The Technologists, who are chiefly concerned with the properties of oils, have classified them into two main divisions: Non-Essential and Essential; the former yielding non-volatile oils marked by a characteristic odour and used in varnishes, soaps, lubrication, etc., while the latter yielding volatile oils used chiefly in perfumes, cosmetics, medicines, etc. Non-Essential oil-seeds have further been divided into four groups: yielding drying, semi-drying, and non-drying oils, and oils which are solid at low temperature.

The following chart gives a clear idea of the classification followed by the Technologists:—



Classification by Seed Crushers.—Seed crushers, who are concerned more with the quantity of oil yielded by oil-seeds than their drying properties, classify oil-seeds, chiefly Non-Essential, into two main groups. Group A, containing 45 to 70% of oil; group B, containing 13 to 40% of oil.

Group† A consists of:—

- (1) Groundnut.
- (2) Sesame seed
- (3) Mowra seed.
- (4) Castor seed.
- (5) Copra.

Group B consists of:—

- (1) Linseed.
- (2) Rapeseed.
- (3) Cotton seed.
- (4) Niger seed.
- (5) Poppy seed.

* *Indian Vegetable Oils*, Bulletin No. 10, Indian Industrial Research Bureau.

† *Reports on Oil-Seeds*, Imperial Institute, London, p. 8.

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The importance of this method of classification lies in the fact that different types of oil-seed-pressing plants are required for the two groups. In the United Kingdom most of the oil mills are provided with plants for pressing oil-seeds belonging to group B, though a certain number of mills, especially during the War, had been provided with equipment for dealing with richer oil-seeds belonging to group A. In mills, where extraction by solvents is resorted to, either group of seeds can be dealt with satisfactorily; and there is no doubt that this method will gradually replace, for most seeds, the manufacture of oil by expression and will upset the above classification.

GENERAL SURVEY OF NON-ESSENTIAL OIL-SEEDS

We propose below to make a detailed study of the different non-essential oil-seeds and the trade that is carried on in each of them among the different countries, with a view to get an exact idea of the magnitude of the trade in this commodity.

1. LINSEED

General.—Linseed is obtained from the flax plant which is an annual herb, and is botanically known as *Linum Usitatissimum*. It has been grown from very remote times in European countries, India and Egypt, on account of the valuable fibre, known as flax, which is obtained from its stem. In common with many plants, which have long been in cultivation, the flax plant has produced many local forms, and its geographical origin is doubtful. Most authorities agree with De Candolle* who considered it indigenous to certain localities situated between the Persian Gulf and the Caspian and the Black Seas. At the present time its cultivation, either for the sake of seed which is known in commerce as Linseed, or for its fibre, extends over wide areas in the temperate and warm temperate regions of both the hemispheres. In European countries, the flax plant is cultivated chiefly for fibre, but in Russia both the seeds and the fibre are produced on a large scale. In India, Canada, the U.S.A., and Argentina, the fibre is of little importance, or at most, it occupies a secondary position. In India and Argentina, it is chiefly burnt, and in the U.S.A., it is utilized for the production of tow for upholstery. Experiments are being made to manufacture paper from it.

Climate & Soil Requirements.—Generally speaking, the flax plant succeeds best when grown in the colder parts of the temperate regions, where extremes of heat and drought are moderate. For the production of the finest fibre of uniform quality it is essential that the plant should be able to maintain a regular development, with few, if any, checks from the time the seed germinates until harvesting takes place. Belts of coastlands subject to cloudy skies and moisture-laden atmosphere, and possessing soil that is moist and well drained are the localities in which the flax plant attains its greatest perfection. The Littoral from the south of Spain northwards to France, Belgium, Holland, Scandinavia, the Baltic and the White Sea districts as well as parts of Ireland, comprise the principal flax

* *Bulletin of the Imperial Institute*, London, Vol. IX. No. 4, p. 355.

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World Production of Linseed in (000) tons.

Countries	1909-13	1920-24	1926-27	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37
U. S. A.	...	498	388	433	646	498	426	531	295	292	173	131	363
Argentina	...	778	1,174	2,020	2,067	1,959	1,250	1,959	2,137	1,307	1,565	1,927	1,403
India	...	497	424	402	406	348	322	380	378	411	406	377	420
Russia (U.S.S.R.)	...	453*	299	522	545	616	719	669	824	787	707	678	728
Poland	...	43	42	62	80	60	77	58	48	41	44	55	70
Canada	...	301	170	150	122	90	51	127	64	61	17	24	43
Other Countries	...	198	238	228	186	188	274	294	348	379	187	202	270
Total †	...	2,758	2,735	3,867	4,052	3,759	3,119	4,018	4,094	3,278	3,159	3,543	3,297

Source :—Statistical Year-Book of the League of Nations.

* Excluding Turkestan, Trans-Caucasia and Far East.

† Estimates.

N.B.—These figures have been converted from quintals into tons at the rate of 10.16 quintals=1 ton of 2240 lbs.

— Figures not available.

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producing countries. A somewhat warmer and drier climate, provided the soil is sufficiently retentive of moisture, is well suited to the flax plant when grown for the production of seeds.

As the plant occupies the land for but a short period and has a delicate and relatively small root system, it demands a soil that is moist and rich in organic matter. A medium soil of good depth that is in a good state of cultivation is found to be the most suitable. The soil requirements are, however, found to vary somewhat with the prevailing climatic conditions, a lighter soil being more suitable where the rainfall is heavy and a heavier soil where drier conditions prevail. A feature of the greatest importance is, that there should be a heavy, rather compact sub-soil capable of retaining moisture and of supplying it by capillarity to the soil above.

Chief Producing Countries.—Linseed is chiefly grown in Russia, Canada, the U.S.A., Argentina, British India and Poland. Very recently China and Australia have taken to it, but their production is not yet large. The world production of linseed has undergone a considerable increase, having risen from an average of 2,758,000 tons during the pre-War period to over three millions and a half tons during the post-War years and even registering a still higher increase in the year 1927-28. From the year 1931-32, a downward tendency in the world production of this seed, probably on account of the fall in prices in common with other agricultural products, is noticeable.

Production of linseed in India has not shown any increase over her pre-War production except in the year 1925-26, when the production went a little above the pre-War level. The production of linseed has increased at a rapid pace in Argentina and Russia, the former having doubled her output. Production of the U.S.A. and Canada has gone down considerably during the last several years.

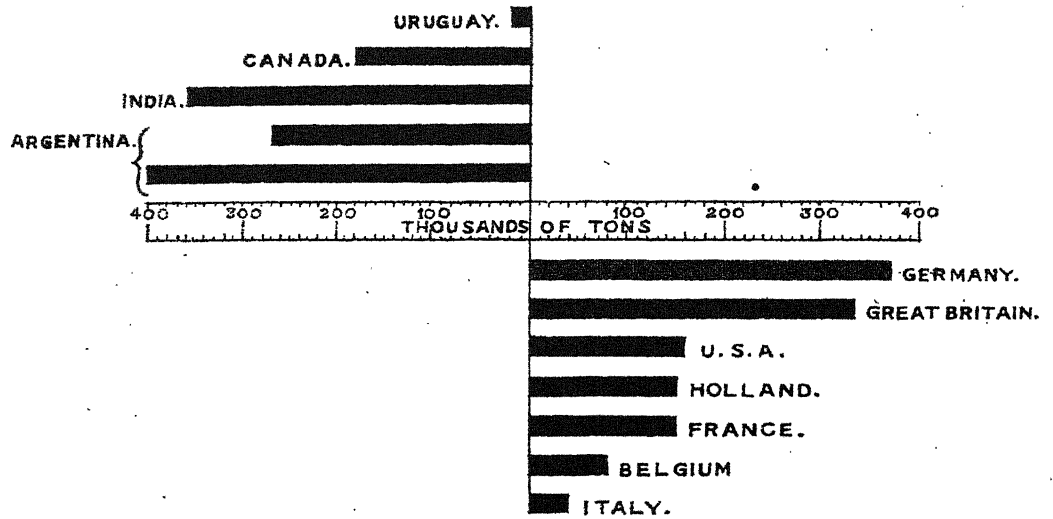
World Trade in Linseed.—A very large quantity of linseed, usually representing more than half of the total world production, is annually placed on the world markets. The accompanying table shows that during the pre-War years (1909-1913) of the total world production of linseed of 2,758,000 tons, over 50% was placed on the market. Countries which took a large share in the export of this commodity were, in order of importance, Argentina, India and Uruguay. Argentina's share in the exports of linseed was 48% of the total net exports, whereas that of India was 26%. Thus Argentina and India together exported about 74% of the total net exports of the world. These exports chiefly went to countries like Germany, Great Britain, the U.S.A., Netherlands, France and Belgium, etc. Germany was the principal importer as she imported about 25% of the total net imports of the world. Great Britain was close behind. Imports of the U.S.A., Netherlands and France were more or less equal.

During the post-War quinquennium and the years that have followed it, there has been a steady increase in the total production of linseed and, naturally, larger quantities of the same have been placed on the world markets. Argentina's position has been growing formidable at the cost of India as the

WORLD TRADE IN LINSEED, 1909-13.

EXPORTS

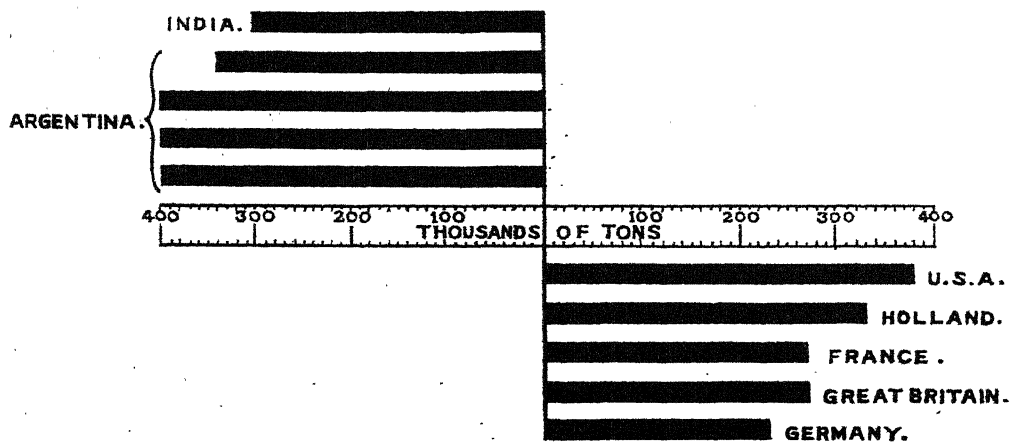
IMPORTS.



WORLD TRADE IN LINSEED, 1936.

EXPORTS.

IMPORTS.



WORLD PRODUCTION AND TRADE

Table showing the leading Linseed-exporting Countries with the net Exports of each in (000) tons.

Countries.	1909-13	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Canada	181	46	66	—	34	26	—	12	—	—	—
Argentina	676	1,865	1,914	1,590	1,151	1,850	1,995	1,370	1,353	1,887	1,541
Uruguay	19	57	59	54	77	130	77	60	70	—	—
India	368	217	171	251	261	112	77	347	276	126	306
Total.	1,244	2,184	2,210	1,895	1,523	2,118	2,149	1,769	1,699	—	—
Total net exports of the world.	1,400	2,240	2,232	1,934	1,546	2,156	2,182	1,819	1,743	2,004	—

Table showing the leading Linseed-importing Countries with the net Imports of each in (000) tons.

Countries.	1909-13	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Germany	372	391	434	307	231	335	438	351	311	243	215
Belgium	80	93	117	103	72	165	158	120	77	—	—
Denmark	15	14	21	14	16	18	24	19	16	—	—
Spain	—	12	23	19	19	20	23	16	16	—	—
France	151	177	206	210	190	259	231	260	234	254	275
Great Britain	332	353	347	281	224	339	364	245	184	257	272
Italy	42	72	64	58	52	60	57	74	63	72	—
Norway	10	14	16	14	16	12	18	18	15	—	—
Holland	155	356	408	348	244	413	439	289	322	402	330
Sweden	21	37	41	45	36	47	42	35	38	—	—
Czechoslovakia	—	23	23	27	12	25	35	13	25	—	—
U. S. A.	161	545	440	606	317	362	197	346	354	439	384
Total	1,339	2,087	2,140	2,032	1,420	2,055	2,036	1,787	1,655	—	—
Total net imports of the world.	1,402	2,169	2,237	2,144	1,493	2,113	2,183	1,880	1,747	2,035	—

Source :— 1. International Year-Book of Agricultural Statistics (International Institute of Agriculture, Rome.)

2. Figures for 1935 & 1936 have been taken from the Review of the Oilseed, Oil and Oilcake Markets for 1936 (Frank Fehr, Co.)

N. B.—Detailed figures of trade in 1935 & 1936 being not available, these columns have been left incomplete in the above tables.

THE OILSEED TRADE OF INDIA

years have passed, so much so that in the year 1932 Argentina contributed over 91% of the total net exports of the world. In the year 1933 India regained her former position chiefly on account of the preference granted to her linseed by the United Kingdom and her Colonies. A large quantity of her linseed also went to the U.S.A. The year 1934 saw a still further increase in the imports of Indian linseed in the United Kingdom, though her exports to other countries showed a slight fall. In 1935, exports of Indian linseed to the U. K. fell owing to the shortage of Indian crop, but they were more than made up in 1936 when India exported 221,000 tons to the U. K. Shipment of Indian linseed to the U. K. should continue on a good scale owing to the preference enjoyed by her in the United Kingdom market.

World Prices.—World prices of linseed have been falling for the last several years. However, they have shown a gradual improvement since 1934 as is evidenced from the following statement:—

Average Monthly Prices (per ton) of Calcutta Linseed to London.

	1931			1932			1933			1934			1935			1936		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
January	11	15	0	11	13	9	11	0	0	11	1	3	12	1	3	13	1	3
February	11	10	0	11	11	3	10	5	0	11	2	6	11	15	0	12	15	0
March	11	7	6	10	17	6	9	15	0	10	18	9	11	2	6	12	16	3
April	10	12	6	9	13	9	9	12	6	11	6	3	11	10	0	12	12	6
May	10	5	0	9	5	0	10	18	9	12	10	0	11	13	9	12	7	6
June	10	2	6	9	6	3	11	10	0	12	10	0	11	11	3	12	12	6
July	10	15	0	9	12	6	12	3	9	11	18	9	11	12	6	13	10	0
August	10	5	0	10	12	9	11	10	9	12	11	3	11	13	9	14	2	6
September	11	0	0	11	6	3	11	7	6	11	13	9	12	1	3	13	12	6
October	11	0	0	10	17	6	10	15	0	11	8	0	12	12	6	13	5	0
November	11	5	0	10	12	6	11	3	9	10	17	6	12	6	0	13	10	0
December	11	0	0	11	1	3	11	0	0	11	12	6	12	12	6	14	5	0

Average 1929: £20-5-1 and 1930: £16-19-9.

Source : Review of the Oilseed, Oil and Oilcake Markets. (Frank Fehr & Co.)

2. GROUNDNUTS

General.—Groundnut is obtained from a plant botanically known as *Arachis Hypogaea* Linn. It is known under a variety of names, such as pea-nut, monkey-nut, gobber pea and earth-nut. It is believed, that this plant is a native of Brazil, and that groundnuts formed a part of the provisions carried by the early slave ships to the West-African coast, where the natives eventually began to grow groundnuts. It further appears, that groundnuts were introduced into the U.S.A. again by the slave traders who carried on their "trade" in colonial days between the West African coast and the Southern States. A few hundred years later, American missionaries introduced it into China. In India, the credit for the introduction of the plant belongs to the Portuguese Jesuit Fathers who followed Vasco da Gama shortly after his first landing in India. The seeds introduced into India were of the Brazilian variety.

Climate & Soil Requirements.—The groundnut is essentially a tropical product and is very widely distributed in practically all tropical and sub-tropical countries. The plant is a herbaceous annual which possesses the characteristic of ripening its

WORLD PRODUCTION AND TRADE

fruit in the ground, hence the names of earth-nut and ground-nut. This peculiarity renders it necessary to have a fine surface tilth on the soil so that the delicate flower-stalk may easily penetrate into it. As such the crop of groundnut cannot be grown in heavy and stiff soils.

Chief Producing Countries.—Leading groundnut-producing countries of the world in order of importance are, India, French West Africa, China, the U.S.A., the Dutch East Indies, Nigeria, etc.

World Production of Groundnuts.—We give below a table which gives the total world production of groundnuts. It may be pointed out that figures of production relating to some important countries of the world are not quite accurate. The main reason for that seems to be, that a large part of the crop is grown in hot and temperate regions of Asia and Africa, where the organization of agricultural statistics is often faulty. There is the further difficulty of knowing whether the crop figures refer to shelled or unshelled nuts. However, the figures reveal that the world production of groundnuts has been more than trebled since the Great War, having risen from 1,772,000 tons during the pre-War years to 5,974,000 tons in the year 1933-34. This, according to the well-known canon of economics, "supply follows the demand," gives an insight into the world's demand for this oil-seed. Since and after the War the uses to which groundnuts have begun to be put have considerably increased, and hence an increased impetus to production.

India, which occupied the first position among the groundnut producing countries, has maintained her position by increasing her production several times.

China, which occupied the fourth position among the groundnut producing countries before the War, now occupies the third, having gone ahead of the Dutch East Indies.

French West Africa and Nigeria have also increased their production. The production of the U.S.A. has also gone up steadily.

World Trade in Groundnuts.—During 1909-13 the average annual net exports of the World were 560,000 tons, being about 30% of the total estimated production of 1,772,000 tons. French West Africa and India contributed more than 70% towards the total net exports of the world. The exports chiefly went to France and Germany. France alone imported about 72% of the total net imports of the world. Germany was, however, much behind France, having imported only 70,000 tons (12%) of the total net imports. The imports of France came mainly from West Africa and partly from India.

During the years 1927-31 the average total net exports of the world were 1,535,000 tons, that is over two and a half times the pre-War average. French West Africa and India were still the largest exporters. China and Nigeria, which had not figured in the pre-War period came next to India and French West Africa in importance. Chief importers during the period were France and Germany. There was a phenomenal increase in the

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Table showing the World Production of Groundnuts (unshelled) in (000) tons.

Countries	1909-13	1921-25	1926-27	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37
Fr. West Africa ...	295*	469	476	490	544	549	618	392	689	787	699	787	—
Nigeria (b) ...	5	60	190	136	155	221	219	228	269	292	350	263	312
U. S. A. ... (c) 191	317	282	386	386	382	427	333	483	463	404	475	582	581
China (d) ...	196	494	488	366	171	191	509	578	365	350	293	422	249
India ...	597	1,353	2,046	2,718	3,211	2,668	2,988	2,697	2,836	3,330	1,869	2,258	2,803
Dutch East Indies, (d') 246	152	222	212	222	240	231	242	185	227	226	197	202	—
Other Countries ...	242	376	469	515	543	516	544	535	663	585	782	791	—
Total †	1,772	3,221	4,163	4,833	5,246	4,803	5,453	5,098	5,512	5,974	4,665	5,305	—

Source :—Statistical Year-Book of the League of Nations.

* Production estimated on the basis of export figures.

† Estimates.

(b) Exports.

(c) 1909 only.

(d) Net exports of unshelled and shelled groundnuts and of groundnut oil expressed in terms of unshelled nuts by means of the following approximate conversion ratios:—100 Kg. of unshelled nuts=60 Kg. of shelled nuts=21 Kg. of oil.

(d') 1912-13 only.

— Figures not available.

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Table showing the leading Groundnut-exporting Countries with the net Exports of each in (000) tons.

Countries	1909-13	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
China (a)	39	53	51	43	57	93	} 183	43	36	21	—
China (b)	—	87	15	36	130	152		88*	100	59	—
India	192	475	749	816	590	710	472	587	522	413	739
Fr. W. Africa. (Senegal). (a)	203	399	407	400	500	449	188	382	486	342	444
Nigeria (b)	5	91	103	147	146	152	188	205	237	198	200
D. E. Indies (a)	13	4	6	—	2	2	1	1	1	—	—
" (b)	7	14	26	16	12	10	13	18	9	—	—
Total	459	1,123	1,357	1,460	1,437	1,416	1,045	1,324	1,361	—	—
Total net exports of the world	560	1,274	1,583	1,613	1,536	1,721	1,170	1,527	1,731	1,353	—

Source :— 1. International Year-Book of Agricultural Statistics (International Institute of Agriculture, Rome).

2. Figures for 1935 & 1936 have been taken from the Review of the Oilseed, Oil and Oilcake Markets for 1936. (Frank Fehr & Company).

(a) Showing unshelled groundnuts.

(b) Showing shelled groundnuts.

— Figures not available.

N.B.—(1) Detailed figures of trade for 1936 being not available column for that year has been left incomplete in the above table.

(2) Net exports of the world have been obtained by adding the net exports of different exporting countries.

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Table showing the leading Groundnut-importing Countries with net Imports of each in (000) tons.

Countries.	1909-13	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Germany (a) } Germany (b) }	70	396	{ 75 511	71	95	84	24	51	75	7	23
Belgium	9	25	26	31	539	491	214	260	313	181	285
Denmark	2	12	22	27	31	26	21	32	37	43	58
France (a)	212	330	282	301	368	350	23	33	30	36	31
France (b)	190	210	324	359	336	338	219	327	472	342	416
Great Britain (a)	—	22	70	49	32	27	445	456	295	333	364
" (b)	—	24	49	83	82	109	15	35	10	12	9
Italy	31	128	136	168	60	120	80	97	102	139	175
Holland	26	81	72	89	106	126	62	80	185	40	—
Canada (a)	—	3	3	4	8	12	75	107	175	142	118
" (b)	—	7	7	8	3	—	10	12	17	—	—
U. S. A.	5	13	27	10	1	2	—	—	—	—	—
Total.	545	1,251	1,667	1,763	1,756	1,726	1,191	1,490	1,709	—	—
Total net imports of the world	563	1,308	1,667	1,832	1,756	1,810	1,237	1,561	1,872	1,405	—

Source :— 1. International Year-Book of Agricultural Statistics, (International Institute of Agriculture, Rome).*

2. Figures for 1935 and 1936 have been taken from the Review of the Oilseed, Oil and Oilcake Markets.

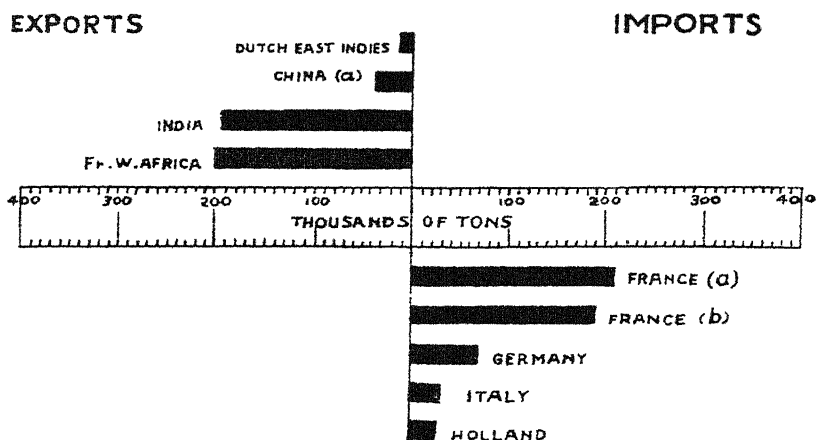
(a) Shows unshelled groundnuts.

(b) Shows shelled groundnuts.

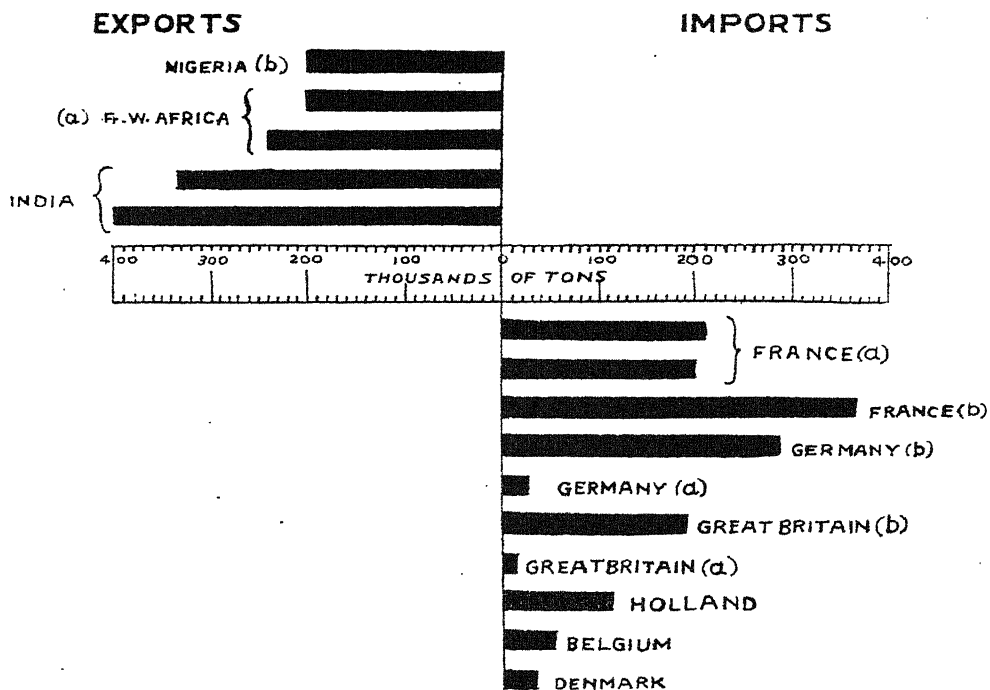
N.B.—Detailed figures of trade for 1936 being not available, column for that year has been left incomplete.

— Figures not available.

WORLD TRADE IN GROUNDNUT, 1909-13



WORLD TRADE IN GROUNDNUT, 1936



NB:-THE LETTERS (a) AND (b) DENOTE "UNSHELLED" AND "SHELLED" GROUNDNUT RESPECTIVELY.

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imports of Germany, they having increased from 70,000 tons in 1909-13 to an annual average of 565,000 tons. Italy and Netherlands also increased their imports considerably. Great Britain which had not figured in 1909-13 assumed an important position as an importer of both shelled and un-shelled groundnuts. Her supplies were chiefly obtained from India.

The year 1932 was an abnormal year in the world trade in groundnuts, as although there was an increase in the world production, there was a considerable fall in the world trade. The exports of the world fell from 1,535,000 tons to 1,170,000 tons. This may be ascribed to over-production and fall in prices in the previous year. However, India, French West Africa, Nigeria and China were still the principal exporters in order of importance.

During the years 1933 and 1934 supplies of groundnuts were plentiful as India and West Africa produced large crops for the second year in succession, so that the share of all the principal importing countries showed an increase over the previous years.

During 1936 there was a great demand for groundnuts in the world markets, particularly from France. This increased demand resulted in an increase in the prices of both *Coromandel* and *Rufisque* groundnuts.

World Prices.—World prices of groundnuts have been on the decrease for the last several years as is evidenced from the following table, when they showed a record fall to £8-2-6 for *Coromandel* groundnuts during 1934. However, there was an improvement in prices in the last quarter of that year. The years that have followed have seen a steady rise in prices till in December 1936 the prices for *Indian Coromandel Machined* groundnuts touched £16-2-6.

Average Monthly Prices of Machined Coromandel Groundnuts to Europe. (per ton).

	1931			1932			1933			1934			1935			1936		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
January	10	2	6	14	11	3	13	3	9	8	15	0	15	0	0	14	5	0
February	11	0	0	17	0	0	12	1	3	8	11	3	15	1	3	13	15	0
March	12	16	3	17	2	6	11	5	0	8	5	0	13	17	6	13	16	3
April	12	1	0	16	2	6	10	12	6	8	2	6	14	13	9	13	17	6
May	10	18	9	15	10	0	11	8	9	8	15	0	15	5	0	13	11	3
June	11	6	3	14	0	0	11	15	0	8	10	0	14	12	6	14	2	6
July	12	0	0	15	7	6	11	12	6	8	17	6	13	13	9	15	7	6
August	11	18	9	15	2	6	10	15	0	10	7	6	14	11	3	16	0	0
September	12	11	3	15	0	0	10	5	0	10	15	0	13	17	6	15	1	3
October	13	0	0	13	6	3	9	13	9	10	15	0	13	15	0	14	0	0
November	12	17	6	12	17	6	9	11	3	10	15	0	13	5	0	14	12	6
December	12	15	0	13	0	0	9	3	9	11	15	0	13	13	9	16	2	6

Source :— Review of the Oilseed, Oil and Oilcake Markets.
(Frank Fehr and Co., London).

3. RAPESEED

General.—The term rapeseed is often used to mean seeds derived from a number of varieties of *Brassica Campestris*, and very often, includes mustard seed which is derived from a closely allied species called *Brassica Juncea*. Attempts

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have been made to classify these varieties into different groups, but the task is found very difficult, as the seeds of practically all varieties are sold as rapeseed. That is, perhaps, the main reason why in most of the countries no separate statistics exist for mustard seed. They are generally included under rapeseed.

Both these plants are believed to be the natives of Northern Europe and belong to the same Natural Order as cabbage, turnips, etc., and resemble these in having large succulent leaves of brownish-green tinge often covered with whitish-blue hair. The height of the plants varies from 18" to about 4' according to the variety and environments. The flowers are usually yellow. The seeds which are borne in black pods about 2" in length are round and vary in colour from creamy white to dark brownish-red.*

Climate & Soil Requirements.—Rapeseed is a crop of tropical as well as temperate zones. When cultivated for fodder, rapeseed requires a moist, rich, loamy soil and does not thrive, as a rule, on light sandy soils or stiff clays. Such soils as produce good crops of turnips, cabbage, wheat or maize are well suited for rapeseed. If sown too frequently on the same soil, rapeseed is liable to suffer from "finger and toe" disease, but this does not usually occur in chalky soils. Rape plant is fed to stock of all kinds, but by far the greatest quantity is fed to lambs and sheep.

World Production of Rapeseed.—It is rather unfortunate to observe that statistics regarding the world production of rapeseed and mustard are incomplete on account of the fact that figures for China, a very important producer, are not available. India produces about four-fifths of the total production of the world; Japan, China, Roumania and Poland most of the remainder.

The noteworthy feature revealed by the accompanying table of production is, that the total world production of rapeseed has not undergone any increase since the pre-War period, and that India has maintained her position as the largest producer of this seed.

World Trade in Rapeseed.—Rapeseed is essentially a product of the Northern Hemisphere. The total net exports of the world in pre-War years (1909-1913) were 374,000 tons, i.e., about 25% only of the total production. Chief countries which contributed towards the exports were India, which contributed over 70 per cent., Roumania 12% and China 6%. Chief importing countries, in order of importance, were Germany, France, Great Britain, Belgium, Netherlands and Japan.

During 1927-1931, the average annual exports of the world in rapeseed were 133,000 tons, i.e., about 1/3 of the pre-War exports. Countries which solely contributed towards this export were India and China. Great Britain, Japan, Germany and France were the chief importers. Japan's imports were largely met by exports from China, whereas those of other countries from India.

* *Bulletin of the Imperial Institute*, Vol. XIII. No. 8, p. 453.

WORLD PRODUCTION AND TRADE

Table showing the World Production of Rapeseed in (000) tons.

Countries	1909-13	1920-24	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
India *	1,233	1,110	1,217	910	1,004	840	910	1,095	977	1,023 *	1,064	952	900	954
Japan	120	82	69	69	70	70	73	76	76	90	87	105	119	191
China †	24	34	46	104	29	26	83	49	39	12	16	44	64	18
Poland	28	34	51	45	27	19	23	27	43	23	26	33	43	51
Roumania	55	15	35	16	14	26	40	49	26	19	26	17	49	50
Other Countries	84	146	114	103	58	87	—	28	38	33	3	49	80	118
Total. ‡	1,544	1,421	1,532	1,247	1,202	1,068	1,106	1,324	1,199	1,200	1,222	1,200	1,235	1,310

Source:—Statistical Year-Book of the League of Nations.

* Figures indicate rapeseed and mustard.

† Figures show the exports of rapeseed from China. The total figures of production for China, are incomplete.

‡ Estimates.

Table showing the leading Rapeseed-exporting Countries with the net Exports of each in (000) tons.

Countries	1909-13	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
India	265	74	81	59	34	32	129	76	49	19	38
China	25	29	26	83	49	38	12	16	44	63	—
Roumania	47	3	0	1	7	7	3	6	3	30	—
Total	337	106	107	143	80	77	144	98	96	112	—
T o t a l n e t											
exports of the											
world	374	129	155	161	116	104	159	115	105	127	—

Table showing the leading Rapeseed-importing Countries with the net Imports of each in (000) tons.

Countries	1909-13	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Germany	140	19	32	14	17	13	17	24	16	4	—
France	66	14	14	14	16	12	12	18	15	12	—
Netherlands	32	3	14	15	7	6	8	6	5	4	—
Belgium	35	2	2	4	4	3	3	4	3	4	—
Great Britain	39	8	37	31	10	22	25	21	20	30	—
Japan	13	39	26	72	49	39	12	18	44	62	—
Total	325	85	125	150	103	95	77	91	103	116	—
T o t a l n e t											
imports of the											
world	384	185	173	183	129	128	177	135	135	174	—

Source:—International Year-Book of Agricultural Statistics. (International Institute of Agriculture, Rome.)

The figures taken from the above publication have been converted into tons at the rate of 10.16 quintals to a ton.

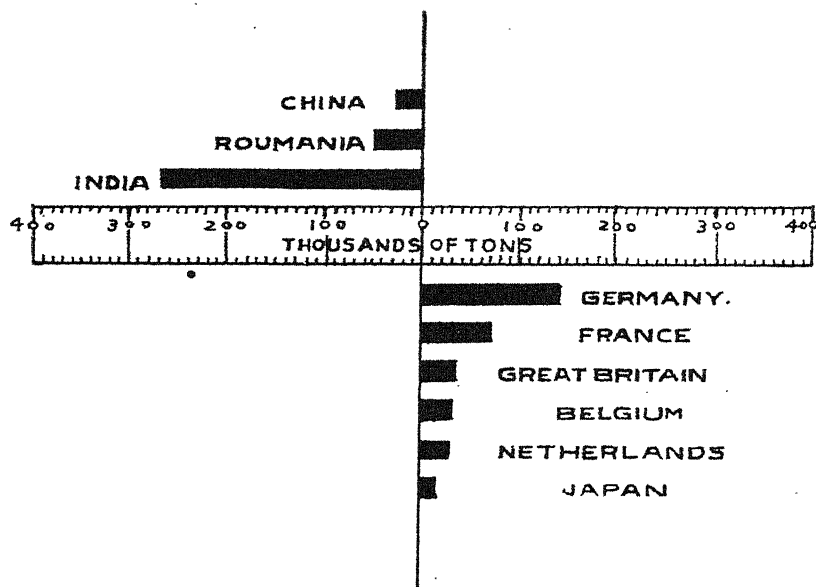
The above data refer to Calendar years (January 1st to December 31.) The average pre-War data for certain countries like Germany, France, Belgium are not exactly comparable with those of 1927, 1928, etc. because of territorial changes after the War.

—Figures not available.

WORLD TRADE IN RAPESEED, 1909 -13.

EXPORTS

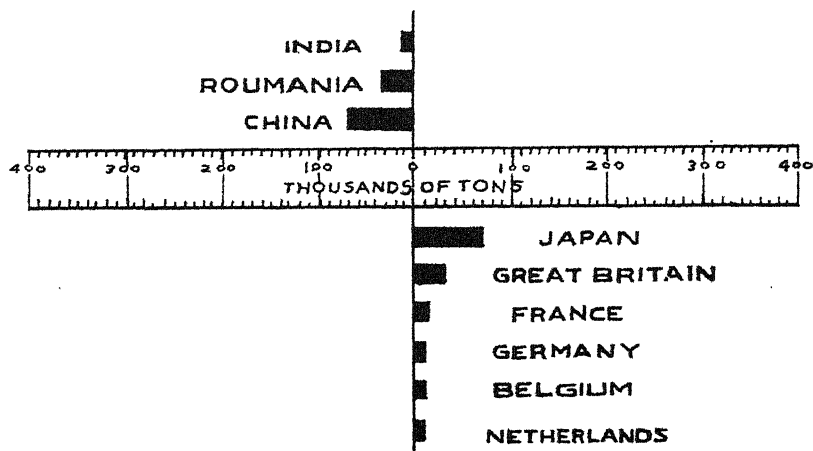
IMPORTS



WORLD TRADE IN RAPESEED. 1935.

EXPORTS

IMPORTS



REF

MONTHLY PRICES (per ton)

OF

COTTON SEED, CALCUTTA

S. SINGAPORE COPRA

IN LONDON

£ 28
£ 27
£ 26
£ 25
£ 24
£ 23
£ 22
£ 21
£ 20
£ 19
£ 18
£ 17
£ 16
£ 15
£ 14
£ 13
£ 12
£ 11
£ 10
£ 9
£ 8
£ 7
£ 6
£ 5
£ 4

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1935
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1936

F.M.S. SINGAPORE COPRA

WORLD PRODUCTION AND TRADE

In 1932 the total net exports of the world were 159,000 tons. India's exports of rapeseed in that year were unusually large, but not larger than the pre-War average. The leading importer was Great Britain and was followed by Germany, France and Japan in order of importance. In 1933 India was the principal exporter though her exports were less than those in 1932. Germany occupied the first position among the importers, Great Britain, France and Japan followed. In 1934 and 1935 the exports from China increased considerably.

World Prices.—The world prices of rapeseed, like other oil-seeds, have been falling from 1927. The annual average price of rapeseed in London fell from £19-16-2 per ton in 1927 to £11-0-9 per ton in 1931. They showed a further fall during the years 1932 and 1933, but they showed an upward trend during 1934, 1935 and 1936.

4. COCOANUT AND COPRA

General.—Cocoanut is, without doubt, the most important oil-bearing tree of warm climates and its distribution is exceedingly wide. The cocoanut-palm, botanically known as *Cocos Nucifera*, belongs to the tribe Cocoineae of the Natural Order *Palmeae*. This tribe includes many of the other oil-yielding palms, such as the West African and Cohume palms. There are many varieties of cocoanut-palm in cultivation showing differences in the habits of growth, yield and size of fruit, but the tree is essentially a tropical one, and though it may grow in districts up to 25° North or South latitude, the nuts hardly ever ripen at these extremes. The very wide distribution of this palm is, no doubt, partly due to the fact, that it is grown abundantly on the shores close to the seas, and thus nuts can be transported by ocean currents without suffering damage.* The tree takes seven to ten years to reach the fruiting stage and continues bearing fruit for about eighty years, a good crop for each tree being 50 to 70 nuts per year.

Climate & Soil Requirements.—Cocoanut-palm grows best near the sea-shore, where there is plenty of light and breeze, and where the temperature has a mean average of about 80° F. It requires a considerable amount of moisture, in no case less than 40"; and if the rainfall is less than this, a rich moisture-retaining soil is necessary. Sixty to eighty inches of rain is most advantageous. The cocoanut-palm flourishes on alluvial flats along the sea-coasts and mouths of rivers. A deep, fertile, sandy loam is probably the best soil of all, but much may be done in poorer soils by suitable draining and manuring. It appears to appreciate a calcareous soil, and humus or decayed organic matter is essential.

It has frequently been stated that the cocoanut-palm requires a soil containing salt, such as is found along the coast, and it certainly flourishes on almost pure sea-sand impregnated with salt. The fact that many plantations have succeeded in inland situations shows that cocoanut will flourish without salt, though salt certainly appears to be beneficial as is indicated by the

* E. R. BOLTON & R. G. PELLY, *Oils, Fats, Waxes and Resins*, p. 77.

THE OILSEED TRADE OF INDIA

results of manurial experiments carried out Porto Rico.* In these experiments the plot to which salt was applied yielded more nuts per tree than those where no salt was added. The results have been so promising that further experiments on older trees are being made, and planters have been recommended to try the application of three or four lbs. of salt to the roots of each tree.

The chief products derived from the cocoanut-palm are (1) cocoanuts, (2) copra, the dried meat of the cocoanut, (3) cocoanut oil and (4) coir fibre. The importance of products (1), (2) and (3) to the fat industries of the world can hardly be overestimated. Cocoanut oil has for long been the mainstay of the margarine manufacturer, and is used for the preparation of all types of edible fats. The fact that supplies can be accurately estimated and come regularly into the country, since harvesting occurs all the year round, is of great importance. Weather conditions affect this crop much less than they affect linseed or cotton seed and in consequence prices of copra generally do not fluctuate to any appreciable extent. Cocoanut-palm also yields an intoxicating drink which is obtained by "tapping" the flower spathe before it opens and allowing the liquid to ferment.

Chief Producing Countries.—Principal cocoanut-producing countries are Ceylon, India, the Dutch East Indies, Philippine Islands, British Malaya, Zanzibar and Mozambique.

World Production of Copra.—It is difficult to get at the correct figures of production of copra as countries growing cocoanut do not keep proper records of production. However, it has been possible to prepare a table showing the production of copra in different cocoanut-growing countries of the world, by adding to the net exports of copra the net exports of oil converted into copra at a rate corresponding to the average yield of oil which is about 63%. The figures cannot give an exact idea of production as they do not take into account the copra and oil consumed locally in the countries of production. However, the table reveals that the world production of copra has considerably increased, having risen from an average of 620 thousand tons during the pre-War period to an average of 1,388,000 tons during 1927-31. The total production in 1933 was 1,600,000 tons. The Dutch East Indies and the Philippines are the two principal producers. Ceylon and British Malaya follow, though not quite very closely.

World Trade in Copra.—Copra is one of those commodities of commerce in which the world has considerably increased its production during the last twenty years. This increase in production is the effect of greater demand for cocoanut oil for edible and other purposes.

The accompanying tables show that the total net world exports of copra during 1909-13 were 537,000 tons. The Dutch East Indies and the Philippines contributed about 67% of the total net exports. These exports chiefly went to Germany, France, the U.S.A., Denmark, Great Britain and Netherlands. Germany took about 29%, France 26%, the rest were shared between the U.S.A., Denmark, Great Britain and Netherlands.

* *Journal of the Jamaica Agricultural Society*, 1923-27, p. 673.

WORLD PRODUCTION AND TRADE

Table showing the World Production (Exports) of Copra in (000) tons.*

Countries	1909-13	1921-25	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Mozambique	4	13	17	19	20	21	21	24	30	32	33	—
Ceylon	83	123	152	160	171	151	170	127	149	256	136	106
D. E. Indies	237	344	315	488	496	386	379	493	489	433	480	501
Br. Malaya	20	74	103	111	126	117	116	110	138	136	169	150
Philippine Islands	125	310	422	452	468	401	428	314	553	563	501	—
Fiji Islands	13	21	26	28	33	24	16	15	21	24	26	—
New Guinea	13	31	48	65	60	64	62	59	59	62	56	67
Other countries	125	184	150	176	180	180	144	169	161	87	170	—
Total †	620	1,091	1,233	1,409	1,554	1,344	1,336	1,311	1,600	1,593	1,571	—

Source :—Statistical Year-Book of the League of Nations.

* To the net exports of copra have been added the net exports from the copra-producing countries of cocoanut oil converted into terms of copra at the rate corresponding to the average yield of oil which is about 63%.

† Estimates.

THE OILSEED TRADE OF INDIA

Table showing the leading Copra-exporting Countries with the net Exports of each in (000) tons.

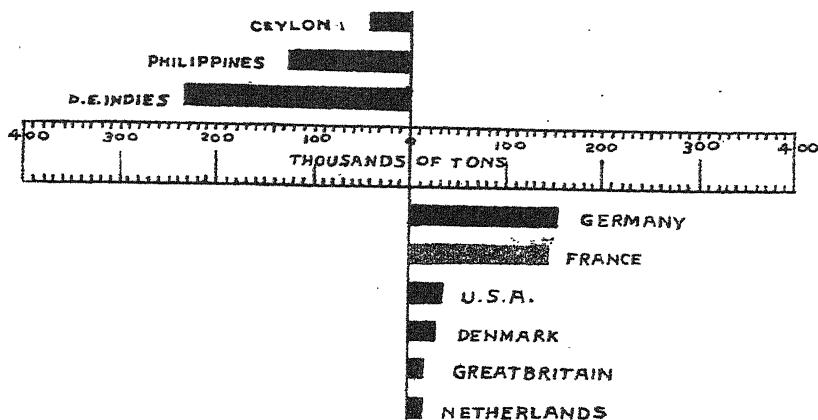
Countries.	1909-13	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Ceylon	...	41	99	102	90	94	45	64	63	48	51
D. E. Indies	...	284	300	434	370	354	472	480	410	476	—
Br. Malaya	...	8	87	112	102	100	97	110	166	180	157
Philippines	...	128	196	170	171	171	135	304	346	259	259
Total	...	406	682	834	733	719	749	958	975	963	—
Total net exports of the world	...	537	924	1,143	1,033	999	1,013	1,231	1,216	1,156	—

Table showing the leading Copra-importing Countries with the Imports of each in (000) tons.

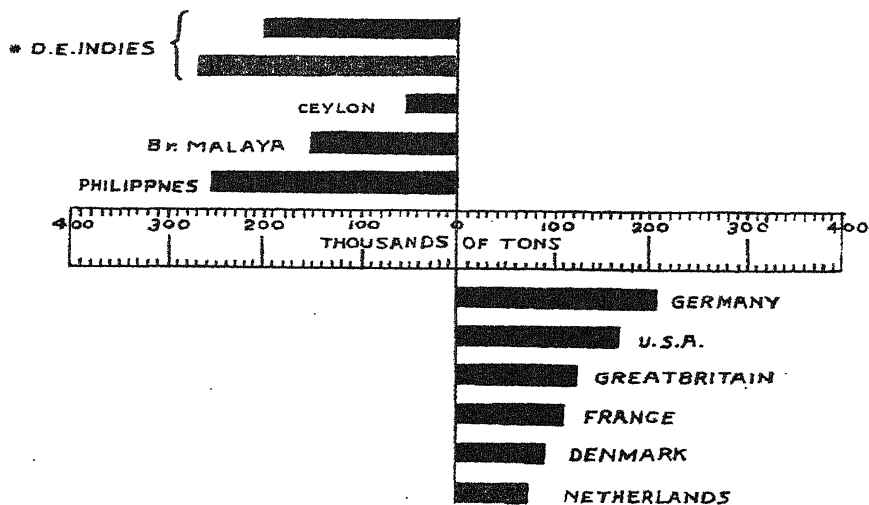
Countries	1909-13	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Germany	...	157	184	197	148	143	128	118	221	91	207
Denmark	...	25	49	60	69	69	74	71	76	81	87
France	...	142	154	181	192	192	173	196	184	143	112
Great Britain	...	14	35	40	67	80	95	102	96	120	123
Italy	...	—	28	26	32	33	36	38	51	49	—
Netherlands	...	14	183	185	95	85	61	42	61	67	76
U. S. A.	...	29	200	251	263	192	198	291	178	202	162
Total	...	381	783	890	809	794	765	858	807	753	—
Total net imports of the world	...	537	861	946	1,088	872	885	1,027	1,162	1,015	—

Source :—1. International Year-Book of Agricultural Statistics. (International Institute of Agriculture, Rome.)
2. Figures for 1935 and 1936 have been taken from the Review of the Oilseed, Oil and Oilcake Markets.

WORLD TRADE IN COPRA, 1909-13 EXPORTS IMPORTS



WORLD TRADE IN COPRA, 1936 EXPORTS IMPORTS



* (1935)

WORLD PRODUCTION AND TRADE

During 1927-31, the average net exports of the world were over 1,000,000 tons *i.e.*, practically double the pre-War exports. Principal exporters were the Dutch East Indies and Philippines. British Malaya and Ceylon considerably increased their exports during this period. The U.S.A. was the principal importer during this period and was closely followed by Germany, France and Netherlands. Imports of the U.S.A. chiefly came from the Philippine Islands, whereas those of Great Britain and France came from Ceylon and the Dutch East Indies.

In the year 1932, the exports of copra showed a little fall in quantity and value. The year 1933 saw a considerable increase in the production and exports of copra. The years that have followed have seen a gradual increase in production and trade.

World Prices.—World prices of copra showed a sharp decline during the depression years, but they have shown an equally sharp rise during the years 1935 and 1936, as is clear from the statement given below:—

*Average Monthly Prices of F. M. S. Singapore Copra C. I. F.
London. (per ton)*

	1931			1932			1933			1934			1935			1936		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
January	15	5	0	15	5	0	13	13	9	9	8	9	12	7	6	16	2	6
February	15	2	6	16	17	6	12	13	9	9	11	3	13	2	6	15	5	0
March	15	11	3	16	5	0	12	5	0	9	7	6	12	5	0	14	3	9
April	14	16	3	15	2	6	11	3	9	9	15	0	12	15	0	13	13	9
May	12	15	0	14	8	9	11	10	0	9	2	6	13	1	3	13	5	0
June	12	2	6	13	17	6	11	15	0	9	8	9	12	2	6	13	16	6
July	12	13	9	14	5	0	11	10	0	9	8	9	11	1	3	14	10	0
August	11	17	6	14	8	9	10	18	9	9	8	9	11	6	3	15	0	0
September	11	17	6	14	17	6	10	8	0	9	5	0	11	5	0	15	5	0
October	14	5	0	14	15	0	10	1	3	9	3	9	13	8	9	15	13	9
November	15	1	3	15	0	0	10	5	0	9	2	6	14	10	0	18	11	3
December	15	7	6	14	12	6	9	17	6	9	17	6	15	0	0	22	3	9

Average for 1929: £23-1-3 and 1930: £18-18-11.

Source:—Review of the Oilseed, Oil and Oilcake Markets.
(Frank Fehr and Co., London).

5. COTTON SEED

Climate & Soil Requirements.—Cotton seed is obtained from the cotton plant, botanically known as *Gossypium Herbaceum*, of which many varieties are grown in all warm parts of the world for the sake of the fibre. Cotton plant thrives best on rich, light, well-drained soil in warm latitudes, and prefers sea-breezes. The plant requires plenty of moisture in the growing season: a hot steamy atmosphere with frequent showers of rain until the flowers are formed; and then a dry sunny period until the balls ripen and burst and cotton can be collected. The plant is particularly susceptible to frost. Average rainfall required for the cotton plant is 20 to 40 inches. All these conditions are available in lowlands near the sea in tropical and sub-tropical regions. So the ideal situation for cotton plantation is in temperate oceanic climate as well as in the tropical and monsoon climates. Thus the actual and potential cotton lands of the world lie between 30° S. and 40° N. excluding the Equatorial belt.

THE OILSEED TRADE OF INDIA

Cotton is an exhausting plant and after a number of years manuring becomes essential. One of the best manures for cotton soil is the seed-refuse, returned to the soil either direct or as cattle manure.

Varieties of Cotton Seed.—For technical and commercial purposes cotton seed is classified under two heads:

(1) Seeds which have no short fibre or "Fluff" or lint, on their outer skin.

(2) Seeds which are covered with a short not-easily-removable "Fluff."

The Egyptian seed is of the first variety, whereas the Indian seed is of the second variety.

Chief Producing Countries.—As cotton seed is obtained from cotton, countries which grow cotton on a large scale are the large producers of cotton seed. Among the principal producers of seeds may be placed the U.S.A., India, China, Egypt and Russia.

The accompanying table reveals that the world production of cotton seed is largely confined to the Continents of America, Asia, Africa and Europe, where the U.S.A., China, Egypt and Russia are the principal producers. The world production of cotton seed has considerably increased since the pre-War days, and now stands at a high figure of over 12 million tons a year. The main reason for an increased production in cotton seed is not only the increased area under cotton, but also increased yield per acre brought about by improved methods of cultivation and introduction of measures to combat diseases which the cotton plant is heir to.

World Trade in Cotton Seed.—In pre-War years the total average annual production of cotton was over 9,000,000 tons, of which only 8% formed the net exports of the world. This low figure of export went to show that the seed was consumed in the countries of origin and not exported. This was particularly true of the U.S.A., which, though the principal producer of cotton seed, did not figure among the exporting countries. Even from India the exports were not high. The only country which exported the seed was Egypt whose share was 56% of the total net exports of the world.

The chief importing country during the pre-War period was Great Britain, which took about 75% of the total imports of the world. Her supplies came chiefly from Egypt and India.

During the years 1927-31, the average annual net exports of cotton seed were 668,000 tons, being 106,000 tons less than the pre-War average. Exports from Egypt, although largest of all other countries, were less than the pre-War level and showed signs of a gradual fall. Exports from India decreased considerably. Exports from China and Anglo-Egyptian Sudan were on the increase. Great Britain was still the principal importer. Japan increased her imports during the period.

In 1932 the world exports of cotton seed fell further to 417,000 tons but in 1934 and 1935 they showed a gradual rise.

WORLD PRODUCTION AND TRADE

Table showing the World Production of Cotton Seed in (000) tons.

Countries	1909-13	1921-25	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37
Egypt	...	600	552	729	771	730	560	382	786	699	768	846
Uganda *	...	10	53	85	54	77	83	108	• 118	91	135	138
Anglo-Egyptian Sudan	...	7	22	56	71	69	87	60	72	98	91	98
Mexico	...	100	91	76	119	105	84	43	101	103	102	143
Brazil	...	178	248	215	198	249	238	148	515	640	856	896
U. S. A.	...	5,186	4,576	5,142	5,746	5,884	6,717	5,423	5,170	3,701	4,222	4,916
China	...	1,106	1,011	932	917	975	917	1,122	1,355	1,545	1,132	1,949
India	...	1,772	2,250	2,481	2,406	2,132	1,570	1,879	2,106	1,998	2,470	2,628
Russia	...	411†	145	474	541	590	836	826	857	871	1,112	1,526
Other Countries	...	246	320	407	473	476	325	343	483	559	874	856
Total ‡	...	9,616	9,316	10,392	11,285	11,305	11,417	10,334	11,643	10,305	11,762	13,996

Source :—Statistical Year-Book of the League of Nations.

* Exports.

† Figures for 1909-13 are for Turkestan, Trans-Caucasia, Khiva and Bokhara only.

‡ Estimates.

Table showing the leading Cottonseed-exporting Countries with the net Exports of each in (000) tons.

Countries	1909-13	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Brazil	37	16	13	24	29	9	0	9	73	108	—
China	12	55	73	90	66	46	38	59	41	60	—
Br. India	229	93	174	76	29	35	1	7	—	—	—
Egypt	437	396	288	324	334	296	199	241	376	368	325
Anglo-Egyptian Sudan	5	57	47	59	55	43	60	48	53	88	75
Total	720	617	595	573	513	429	328	364	543	624	—
Total net exports of the world	774	685	678	676	795	507	417	537	659	802	—

Table showing the leading Cottonseed-importing Countries with the net Imports of each in (000) tons.

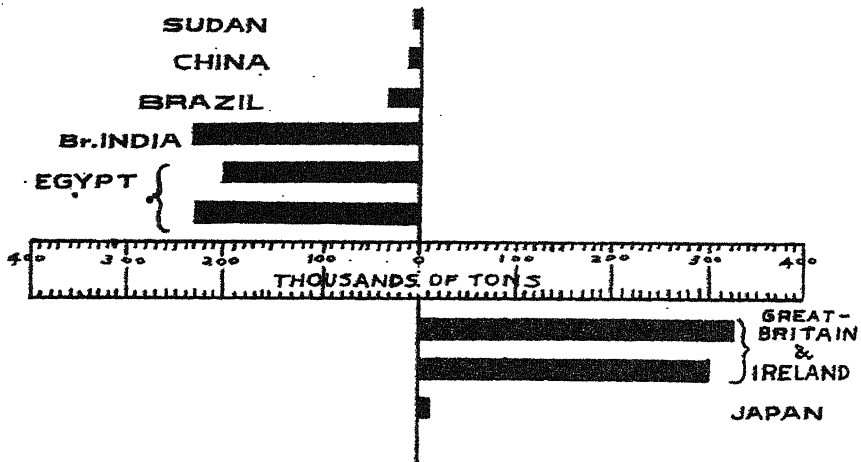
Countries	1909-13	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Great Britain and Ireland	625	537	574	570	517	502	429	458	546	655	602
Denmark	—	16	16	10	14	7	6	4	9	14	7
Japan	11	55	70	96	70	50	46	63	60	97	—
Total	636	608	660	676	601	559	481	530	615	766	—
Total net imports of the world	832	673	691	720	628	578	505	559	643	809	—

Source:—International Year-Book of Agricultural Statistics. (International Institute of Agriculture, Rome.)

2. Figures for 1936 have been collected from the Review of the Oilseed, Oil, and Oilcake Markets.
— Figures not available.

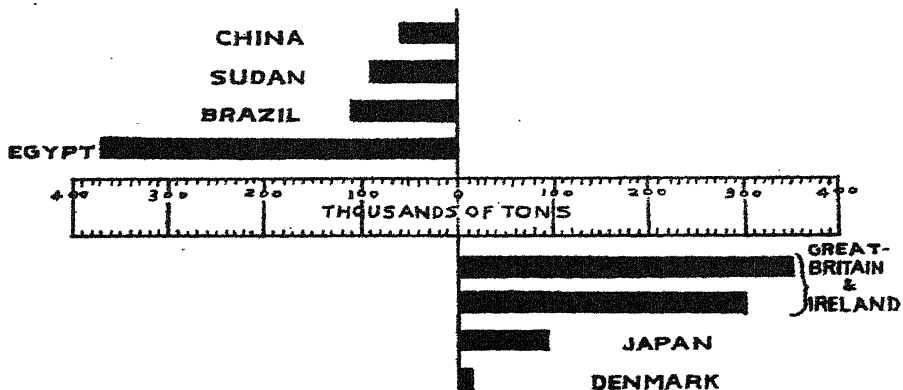
WORLD TRADE IN COTTON SEED, 1909-13

EXPORTS **IMPORTS**



WORLD TRADE IN COTTON SEED, 1935.

EXPORTS **IMPORTS**



WORLD PRODUCTION AND TRADE

World Prices.—World prices of cotton seeds have been falling for the last several years. The annual average price of Egyptian cotton seed fell from £9-17-6 in 1929 to £4-18-9 in 1934. From the last quarter of 1934 they showed a gradual improvement till they stood at over £9 by the end of 1936.

Average Monthly Prices (per ton) of Black Egyptian Cotton seed to London

	1931	1932	1933	1934	1935	1936
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
January	6 1 3	6 8 9	7 16 3	4 8 9	7 7 6	6 10 3
February	6 10 0	6 18 9	7 5 0	4 11 3	7 3 9	6 16 3
March	6 16 • 3	6 8 9	7 0 0	4 6 3	6 12 6	7 0 0
April	6 8 9	6 0 0	7 0 0	4 6 3	6 7 6	7 0 0
May	5 12 6	5 17 6	7 0 0	4 10 0	6 12 6	6 17 6
June	5 10 0	5 16 3	6 7 6	4 11 3	6 7 6	7 5 0
July	6 7 6	6 13 9	6 5 0	4 16 3	6 12 6	7 17 6
August	5 2 6	7 7 6	5 13 9	5 10 0	6 10 0	8 0 0
September	5 16 3	7 7 6	5 3 9	5 2 6	6 10 0	7 6 3
October	6 12 6	6 17 6	4 10 0	5 3 9	6 11 3	7 3 9
November	6 15 0	7 2 0	4 8 9	5 16 3	6 7 6	7 18 9
December	6 5 0	7 12 6	4 7 6	6 6 3	6 13 9	9 5 0

Average for 1929: £9-17-6 and 1930: £7-0-0

Source:— Review of the Oilseed, Oil and Oilcake Markets. (Frank Fehr & Co., London).

6. SESAME SEED

General.—The sesame seed of commerce is the product of an annual herbaceous plant, known botanically as *Sesamum Indicum* Linn., which is widely cultivated throughout the warmer regions of the world. It is generally supposed to be indigenous to India, where it is extensively cultivated; but many authorities follow De Candolle, who considered it native to Sunda Islands, whence it was introduced to India and the Euphrates country, in very remote times. It is stated to have been found wild in Java.

It is an erect-growing plant with a four-angled stem that attains a height of two to five feet according to the variety, soil, and climatic conditions, and branches freely if allowed space for development. The plant commences to bloom when about a foot high, and a succession of flowers is produced as the stem elongates. The fruit is a narrow capsule measuring from 1 to 1½ inch and dehisces by splitting at the apex into two valves. Each capsule contains numerous small seeds, arranged in four rows along the central axis. The seeds are oval or obliquely oblong in shape, flattened on two sides and pointed at one end. In colour they vary greatly, and may be either white, grey, red-dish-brown, dark-brown, or black according to the variety. Commercial samples frequently consist of a mixture of these colours.

Climate & Soil Requirements.—The Sesame plant flourishes in the tropical and sub-tropical regions. It succeeds in Southern Europe on the shores of the Mediterranean. It is a common crop in most Asiatic countries, and in Africa is found both on the East and the West coasts and also in the interior. It has been

THE OILSEED TRADE OF INDIA

introduced into the New World, and is cultivated in the Southern States of North America, in Central and South America and in the West Indies.

Sesame is generally grown on light and sandy soils. It also does well on red loams, but some of the Indian varieties do best on the black or medium black cotton lands, whilst spring crop is said to be best suited to heavier soils. In the United States it flourishes on dry, poor soils, that seldom receive manure and which are practically valueless for raising other crops. Owing to the short length of time sesame occupies the land, it does not require a large supply of moisture, and when grown on irrigated soils, one or two waterings are sufficient.

Chief Producing Countries.—Sesame seed is produced in many countries both in the temperate and tropical regions. India leads them all and is followed by China, Anglo-Egyptian Sudan, Mexico and Central America.

World Production of Sesame Seed.—Although it is difficult to arrive at the exact figures of production of sesame seed, because of the incomplete figures of production, the total world production of sesame is on the increase, having risen from 666,000 tons before the War to 797,000 tons in 1930-31, 718,000 tons in the year 1932-33 and 728,000 tons in 1933-34. India is the largest producer of sesame seed in the world and is followed by China. The production of the Anglo-Egyptian Sudan is on the increase, while that of Mexico is constant.

World Trade in Sesame Seed.—The accompanying table shows that the total net exports of the world in Sesame seed during the pre-War years (1909-13) were 277,000 tons. Of these about 47% came from China and 42% from India. Thus, China and India together contributed about 90% of the total net exports of the world. Exports went chiefly to Germany, France and Italy. Germany took about 40%, France, about 20%, and Italy 12%.

During the years 1927-31, the average annual exports of the world were 130,000 tons, i.e. less than 50% of the pre-War average, when the total exports of the world were 277,000 tons. The largest exporters were China and India, though exports from India showed a heavy fall from year to year during the period. The exports of Anglo-Egyptian Sudan showed a slight improvement. Principal importers were Germany and Italy. Imports of France fell, whereas the imports of the Netherlands showed a slight improvement. In 1932, the total net exports of the world fell still further. Since 1933 there has been a gradual increase in the production and the exports of sesame seed.

World Prices of Sesame Seed.—World prices of sesame seed have been moving downward like the prices of other oil-seeds. They showed a gradual fall till 1934, when they stood at the lowest level during the depression period. However, from the last quarter of that year they have been gradually rising.

7. CASTOR SEED

General.—The castor plant, known botanically as *Ricinus Communis* Linn, is widely distributed throughout the tropics, but

WORLD PRODUCTION AND TRADE

World Production of Sesame Seed in (000) tons.

Countries	... 1909-13	1921-25	1926-27	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37	
India	...	477	475	411	543	495	455	523	476	545	541	404	463	482
China *														
(Manchuria)	...	131	73	54	34	57	87	114	99	31	53	43	115	105
Anglo-Egyptain														
Sudan	...	27	25	22	20	21	43	45	14	34	15	21	21	—
Mexico	10	11	12	15	10	6	13	15	12	14	17	—
Turkey	—	—	—	—	—	—	—	—	39	31	19	39
Other Countries	...	31	39	78	90	89	114	109	95	93	68	97	99	—
Total †	...	666	622	576	689	677	709	797	697	718	728	610	734	728

Source :—Statistical Year-Book of the League of Nations.

* Figures shown against China are the exports from that country.

† Estimates.

— Figures not available.

Table showing the leading Sesameseed-exporting Countries with the net Exports of each in (000) tons.

Countries	1909-13	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
China and Manchuria	131	34	57	87	114	99	31	52	77	115	—
India	117	47	26	2	1	2	13	16	8	1	14
Anglo-Egyptian Sudan	6	8	10	13	12	5	12	6	12	12	—
Total	254	89	93	121	127	106	56	74	97	128	—
Total net exports of the world	277	90	117	148	159	137	95	105	129	175	—

Table showing the leading Sesameseed-importing Countries with the net Imports of each in (000) tons.

Countries	1909-13	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Germany	106	4	8	13	35	7	6	4	2	4	1
Denmark	4	6	9	10	6	8	6	8	9	9	7
France	56	4	6	3	2	1	1	1	1	1	1
United Kingdom	*	*	*	9	7	0	8	—	—	—	—
Italy	32	3	12	16	25	13	14	13	21	35	—
Netherlands	—	3	13	16	9	7	2	2	2	3	12
U. S. A.	—	—	—	3	24	62	8	19	10	65	52
Total	198	20	48	70	108	98	45	47	45	117	—
Total net imports of the world	263	69	101	124	145	147	78	106	106	175	—

Source:—International Year-Book of Agricultural Statistics. (International Institute of Agriculture, Rome.)
 * Figures of import less than 1000 tons.
 — Figures not available.

N.B.—Figures for 1936 from the Review of the Oilseed, Oil and Oilcake Markets.

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it is generally believed to be native to North Africa and, probably, also to India. It belongs to the Natural Order *Euphorbiaceae*, and is thus related to several other plants yielding oil-seeds. In tropical countries the castor plant reaches the dimensions of a small tree and may attain a height of 20 to 30 feet, or more with a stout trunk and branches. In cooler countries it becomes a shrub or bush 8 to 12 ft. high; and in localities where frosts occur it is a herbaceous perennial. Under cultivation in warm temperate climate, it is usually treated as an annual. Owing to its decorative value it is frequently cultivated under the name of "Palma Christi," solely for ornamental purposes. The leaves are large and handsome on long foot-stocks arranged alternately on the stem. The fruit is a dry three-seeded capsule, usually covered with sharp, spiny, prominences, rarely smooth. The seeds vary very much in colour, size and shape; and they are usually oval, flattened on one side, and of mottled grey colour with a conspicuous white carbuncle at the hilum end. When ripe, the capsules of some varieties dehisce and scatter the seeds to a considerable distance.

Climate and Soil Requirements.—As a rough guide to the climatic conditions necessary for the production of castor seed it may be stated, that where maize can be grown and ripened the castor plant may be expected to succeed. It is sensitive to frost and is, therefore, only adapted to warm climates or where the summers are sufficiently long to mature the seeds. A fair amount of moisture and rainfall after sowing is essential to ensure good germination; but after the root-system has developed less moisture is needed, and in the tropics its cultivation seems to be restricted by excessive rainfall.

The soil best suited to the castor plant is a rich, well-drained sandy or clayey loam, or any land that produces good wheat or maize. Very sandy soils or heavy clays are alike unsuitable. The land destined for a crop of castor seed requires a good preparatory cultivation before sowing takes place. Owing to its well-developed root-system the castor plant demands a deep rooting medium. Deep ploughing and harrowing are, therefore, essential. The castor plant soon exhausts the soil, and if virgin land is not available for the crop, natural or artificial manures are necessary to keep up the supply of available nitrogen, potash and phosphoric acid. One of the most valuable manures for this purpose is the residual cake left after the extraction of oil from the seeds. The empty capsules, shells, leaves and stems can also be returned to the soil.

Varieties.—For practical purposes the numerous forms of castor plant may be grouped into two classes, the large-seeded and the small-seeded. The former are more prolific in the yield of seeds, and the oil obtained from them is suitable for lubrication and industrial purposes; the latter yield a finer oil used in medicines.

Chief Producing Countries.—Although the greater bulk of castor seed in the world's markets is produced by India, Brazilian seed, which first assumed noteworthy proportions during the War, is also of some importance. The United States grow the

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plant but in small quantities. It is also cultivated in Manchuria, Java, and Indo-China, but the area is too small to deserve any notice at our hands. India is the largest producer of castor seed and enjoys almost a monopoly in the world trade in that product.

World Production (in 000 tons) of Castor seed

Countries	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
India	...	130	138	110	120	120	143	150	146	109 122
East African States.					3	3	3	3	3	3

Source:—Review of the Oilseed, Oil and Oilcake Markets (Frank Fehr. & Co. London.)

8. SOYA BEANS

General.—Soya bean, botanically known as *Soya Hispida*, is a leguminous plant indigenous to China, Manchuria, Korea, Japan, and Indo-China. The bean has been cultivated in China from the very early times. It is known to have been used 4,700 years ago. In addition to being a valuable source of oil the beans have, for a long time, been used in many different food preparations among which may be mentioned "Japanese Soy Sauce" and "Tofu," a vegetable cheese which is one of the staple articles of diet in Japan. The oil is obtained from the beans either by pressing or by extraction. The oil contents of the beans vary from 16% to 20%. Besides bearing pods containing the oleaginous seeds, the plant is much used for forage purposes, while the hay is relished by all animals.

Owing to its many economic uses, and the fact that the plant withstands drought, slight frost and also excessive moisture well, efforts have been made to introduce it in India and many colonies. In India its cultivation has hardly passed the experimental stage. The plant has been also introduced in England and the U.S.A. where its cultivation is increasing.*

Chief Producing Countries.—The chief countries producing soya beans are China, (Manchuria), Korea, Japan, Java and Madura and the U.S.A.

Explanation of the Table.—The world production of Soya beans has very considerably increased, having risen from about 1,000,000 tons before the War to over 6,000,000 tons in 1927 and onwards. This is so because of the ability of the plant to withstand the drought and excessive moisture, and the improved methods of cultivation. In China (Manchuria), its production has gone up by leaps and bounds during the last decade and a half, so much so that the country now occupies the first position among the soya bean-producing countries of the world. There has also been a phenomenal increase in its production in the U.S.A., Japan and Korea. Production in Java and Madura has been more or less constant. It may be pointed out,

*E. R. BOLTON & R. G. PELL, *Oils, Fats, Waxes and Resins*, p. 59.

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World Production of Soya Beans in (000) tons.

Countries.	...	1909-13	1921-25	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
U. S. A.	...	—	144	163	200	236	232	321	400	351	313	476	1,139	793
China (Manchuria).	...	892	3,751	4,700	4,741	4,758	4,773	5,276	5,145	4,200	5,123	3,294	4,030	4,357
Korea	...	93	574	565	617	495	518	583	590	555	578	484	556	—
Japan	...	19	455	317	424	387	345	394	322	303	356	275	287	—
Java and Madura	...	—	100	97	106	115	105	120	126	146	179	177	200	—
Other Countries	...	—	24	25	31	30	31	33	31	173	131	231	116	—
Total*	...	1,004	5,048	5,867	6,119	6,021	6,004	6,732	6,614	5,728	6,680	4,937	6,378	6,319*

Source :—Statistical Year-Book of the League of Nations.

* Estimates.

— Figures not available.

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Table showing the leading Soya Bean-exporting Countries with the net Exports of each in (000) tons.

Countries.	1909-13	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
China											
(Manchuria) ...	686	1,732	2,372	2,728	1,928	2,507	1,139	2,462	2,670	1,662	—
Korea ...	90	187	182	178	184	209	221	189	237	—	—
Total ...	776	1,919	2,555	2,906	2,112	2,716	1,360	2,651	2,907	—	—
Total net exports of the world...	779	1,929	2,556	2,967	2,113	2,751	1,535	2,660	2,870	2,103	—

Table showing the leading Soya Bean-importing Countries with the net Imports of each in (000) tons.

Countries.	1909-13	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Germany	...	567	834	1,007	875	999	1,168	1,152	899	507	476
Denmark	...	34	155	211	173	234	225	230	265	260	244
Great Britain	...	224	82	191	106	110	159	157	177	159	82
D. E. Indies	...	53	87	93	96	104	60	53	28	—	—
Japan	...	19	389	458	420	534	459	427	628	470	—
Total	...	330	1,280	1,787	2,103	1,670	1,981	2,019	1,997	—	—
Total net imports of the world	...	552	1,640	2,224	2,594	1,988	2,402	2,411	2,410	2,486	1,929

Source:—1. International Year-Book of Agricultural Statistics. (International Institute of Agriculture, Rome.)
2. Figures for 1935 & 1936 have been taken from the Review of the Oilseed, Oil and Oilcake Markets.

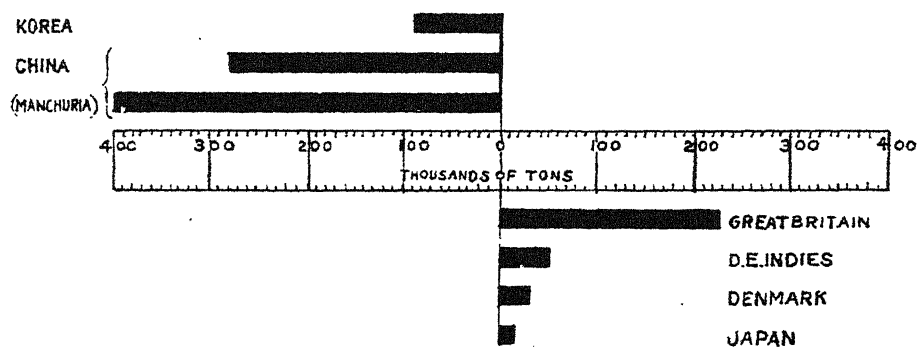
N.B.—Detailed figures of trade for 1935 & 1936 being not available columns for those years are left incomplete.

—Complete figures not available.

WORLD TRADE IN SOYA BEANS, 1909-13

EXPORTS

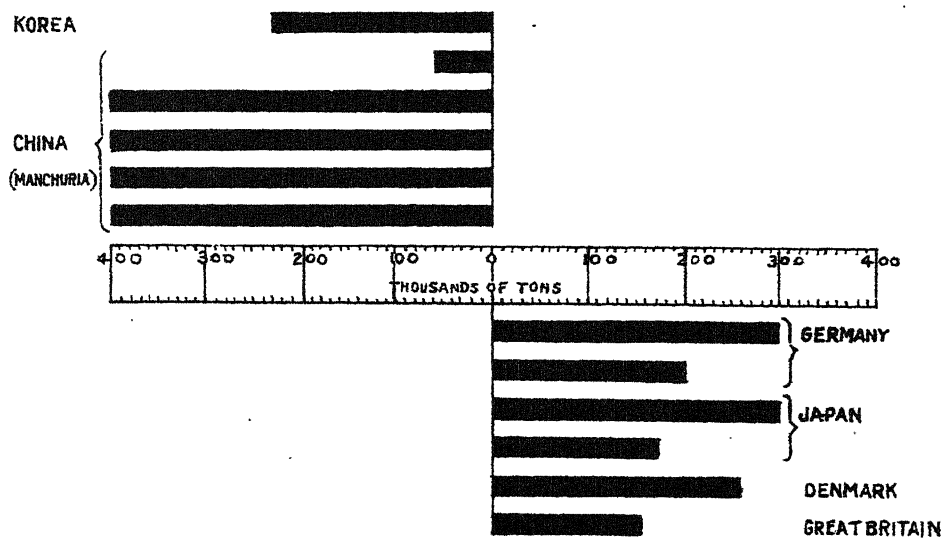
IMPORTS



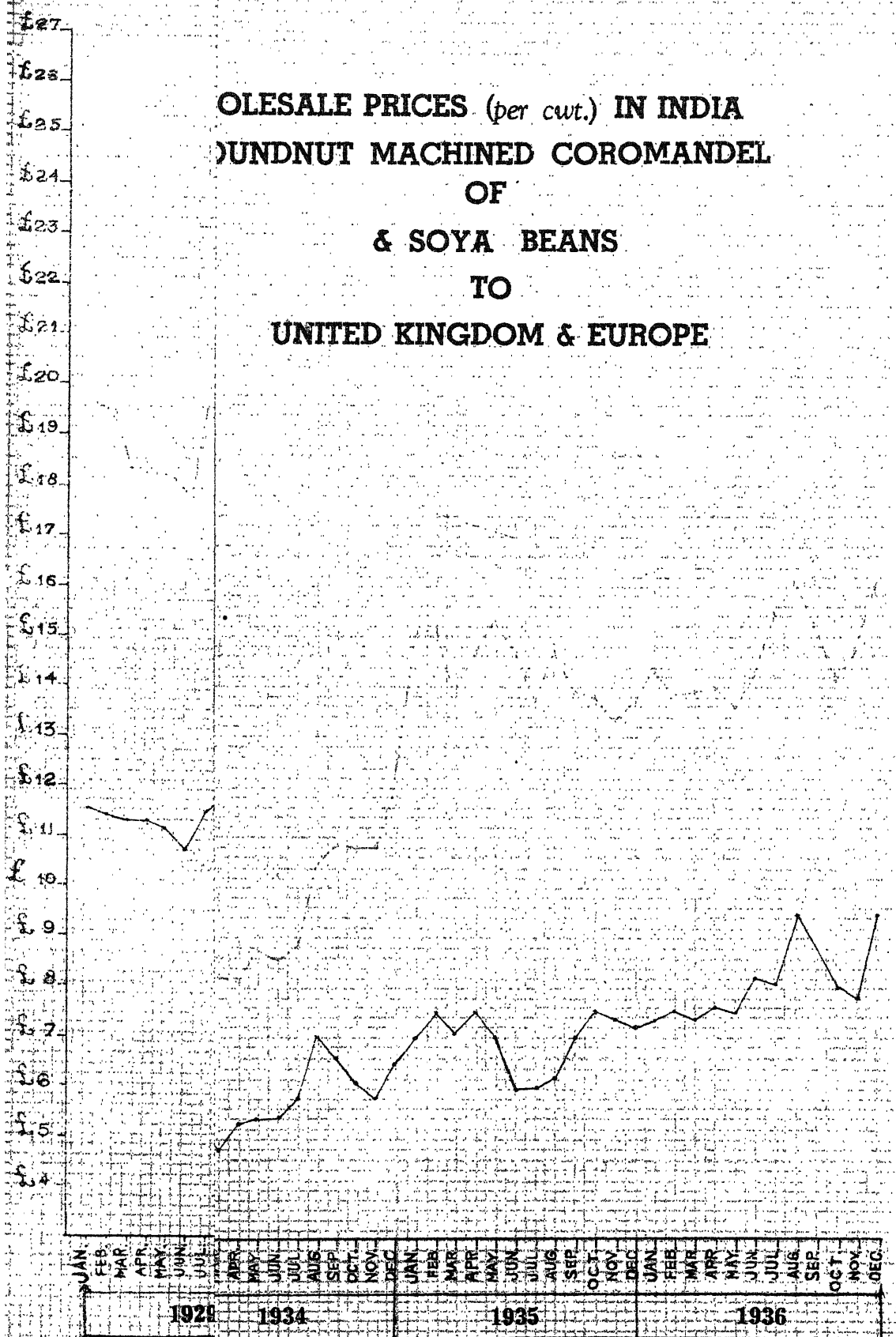
WORLD TRADE IN SOYA BEANS, 1935-36

EXPORTS

IMPORTS



**WHOLESALE PRICES (per cwt.) IN INDIA
OF
PUNDMUT MACHINED COROMANDEL
OF
& SOYA BEANS
TO
UNITED KINGDOM & EUROPE**



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that this phenomenal increase in the production of soya beans has come in the way of rapeseed, the production of which, as we had occasion to remark in the preceding pages, has not much increased. Soya bean oil is a good substitute for rapeseed oil, and is also comparatively cheaper and, therefore, has been able to affect adversely its production.

World Trade in Soya Beans.—During the pre-War years (1909-13), out of the total estimated production of 1,004,000 tons about 780,000 tons of soya beans were placed on the market and they were shared between China and Korea. China exported about 88% of the total net exports of the world. Korea's share was about 10%. Exports chiefly went to Germany, Great Britain, Dutch East Indies, Denmark and Japan. Great Britain's share in the total net imports was significant.

During the years 1927-31, out of the total average production of over six million tons, a little over 2 million tons were placed on the market. China again loomed large as an exporting country, contributing about 91% of the total net exports of the world. Korea came next. The largest importer was Germany to which over 44% of the total imports of the world went. Japan came next in matters of import, her share being about 22%. Denmark was the third in importance, followed by Great Britain and the Dutch East Indies.

In the year 1933, exports showed a considerable increase over 1932 figures. The exports of Manchuria increased considerably. The years that have followed have seen a further improvement in the soya bean trade. Germany is still the largest individual buyer, though as years progress the shipments continue to get smaller. Sweden has also begun to figure as an importer.

World Prices of Soya Beans.—The following statement shows the average monthly prices of soya beans in London. The prices reached their lowest level in the first quarter of the year 1934, since when they have been gradually improving.

Average Monthly Prices (per ton) of Soya Beans in London

	1931	1932	1933	1934	1935	1936
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
January	6 2 6	7 5 0	6 18 9	5 7 6	7 0 0	7 7 6
February	6 2 6	8 0 0	6 11 3	5 6 3	7 11 3	7 11 3
March	6 12 6	7 0 0	6 8 9	4 17 3	7 2 6	7 7 6
April	6 7 6	6 10 0	6 3 9	5 7 6	7 10 0	7 12 6
May	6 6 3	6 15 0	6 12 6	5 8 9	7 0 0	7 11 3
June	6 5 0	6 11 3	6 17 6	5 8 9	6 0 0	8 5 0
July	6 5 0	6 16 3	6 15 0	5 17 6	6 0 0	8 2 6
August	5 15 0	8 1 3	6 5 0	7 1 3	6 5 0	9 8 9
September	5 18 0	7 15 0	6 3 9	6 12 6	7 0 0	8 17 6
October	6 15 0	7 10 0	6 0 0	6 3 9	7 10 0	8 0 0
November	7 2 6	8 10 0	6 0 0	5 16 3	7 7 6	7 17 6
December	7 3 9	7 5 0	5 15 0	6 10 0	7 5 0	9 8 9

Average for 1929: £11-4-9 and 1930: £8-5-0

9. HEMP SEED

General.—Hemp seed is obtained from the hemp plant, botanically known as *Cannibus Sativa*, which grows wild in Central

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Asia and is cultivated in temperate and tropical countries of both the hemispheres. The plant is of importance for the production of fibre, and the well-known Eastern narcotic *bhang*, *ganja* or *charas* is obtained from the leaves and flowers of this fibre plant. In temperate climates, it is chiefly grown for fibre and sometimes for seed, but in the tropics the drug is the important product. The seeds yield about 30% of greenish-yellow drying oil which finds use as a paint oil. The oil is also used on the Continent for the manufacture of soft soaps.

Since seed is often produced as a by-product from fibre cultivation, the quality is apt to be variable, but in some places, *viz.*, the U.S.A., the plants are grown specially for the seed, which is gathered by cutting down the plants as soon as they reach maturity. Hemp seed is very prone to heat, and for this reason storing in bulk is to be avoided.

Chief Producing Countries.—The principal grower of hemp seed is Russia. Other European countries like Poland and Roumania, also grow hemp seed, but their total production put together is not even one-tenth of that of Russia. Another country which is of importance is China, but, unfortunately, no complete statistics of production are available.

World Production of Hemp Seed.—The following table shows that Russia which is the largest producer of hemp seed considerably increased her production over her pre-War figures; but since 1930 there has been a gradual fall in the production of Russian hemp seed. Figures for China would have afforded us a good opportunity for commenting on its production, but as they are incomplete, and even unreliable, they have been purposely not included in this table.

*Table showing the World Production of Hemp seed in (000) tons.**

Countries	1909-13	1929	1930	1931	1932	1933	1934	1935	1936
Russia	383	402	364	315	276	276	226	226	—
Other European Countries	52	55	52	56	48	50	50	59	—
Total†	435	457	416	371	324	326	276	285†	—

Source:—Statistical Year-Book of the League of Nations.

* Figures for China being incomplete are not included in the table.

† Estimates.

World Trade in Hemp Seed.—The chief hemp seed-importing countries are France and Japan. The table on the following page gives an idea of the imports of hemp seed in each country.

Trade in hemp seed is limited to a few countries only, Russia being the principal exporter and France and Japan being the principal importers.

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Table showing the Imports of Hemp Seed into France and Japan.

Countries	1929	1930	1931	1932	1933	1934	1935	1936
France	6,202	5,638	4,118	8,840	6,158	18,538	9,746	9,628
Japan	16,180*	18,000	7,322	5,840	5,557	9,940	13,570	—

Source:—Review of the Oilseed, Oil and Oilcake Markets.

* Complete figures not available.

— Figure not available.

OTHER OIL-SEEDS

Among other oil-yielding seeds may be mentioned palm kernel, sunflower seed, poppy seed, mowra seed and niger seed. etc.

10. PALM KERNELS

Climate & Soil Requirements.—Palm kernels are obtained from the oil-palm which is grown in West Africa. The oil-palm requires a hot and moist climate, such as occurs in the Equatorial parts of West Africa. Although it also grows in tropical regions with marked wet and dry seasons, these conditions do not favour quick growth or productivity. It requires a mean annual temperature between 71° and 86° F., and rainfall between 70 to 100 inches a year. The oil-palm appears to do well on many kinds of soils, but, generally speaking, rich but not very heavy alluvial soils are the best. Ample moisture is essential and land liable to flooding is often suitable, provided that the trees are not exposed to stagnant water for a long time.

Production.—Growth of oil-palm and consequent production of palm oil is confined to French West Africa, Belgian Congo, Sierra Leone and Nigeria. Brazil and the Dutch East Indies also produce palm oil, but their production is not much. It may be interesting to note that the production of palm oil has been on the increase for the last ten years, although no accurate statistics of production are available because of the backward nature of the producing countries. Total production of palm kernels from the principal producing countries of the world may be put at over 650,000 tons a year.

11. SUNFLOWER SEED

General.—Sunflower is an annual plant belonging to the Natural Order *Compositae*. The seeds contain 22% to 25% of oil and are a valuable source of oil and feeding cake. They are also used as food for the poultry. The value of sunflower crop does not lie entirely in the seeds, for the stem and leaves may be used as fodder or converted into a silage which compares favourably with maize silage.* Further, the sunflower plant is particularly rich in potash and after harvesting the seeds, the plants may be burnt to enrich the soil.

Climate & Soil Requirements.—Sunflower requires a temperate climate and does well on most kinds of soils which have

* *Journal of Agricultural Research*, 1919, p. 325.

THE OILSEED TRADE OF INDIA

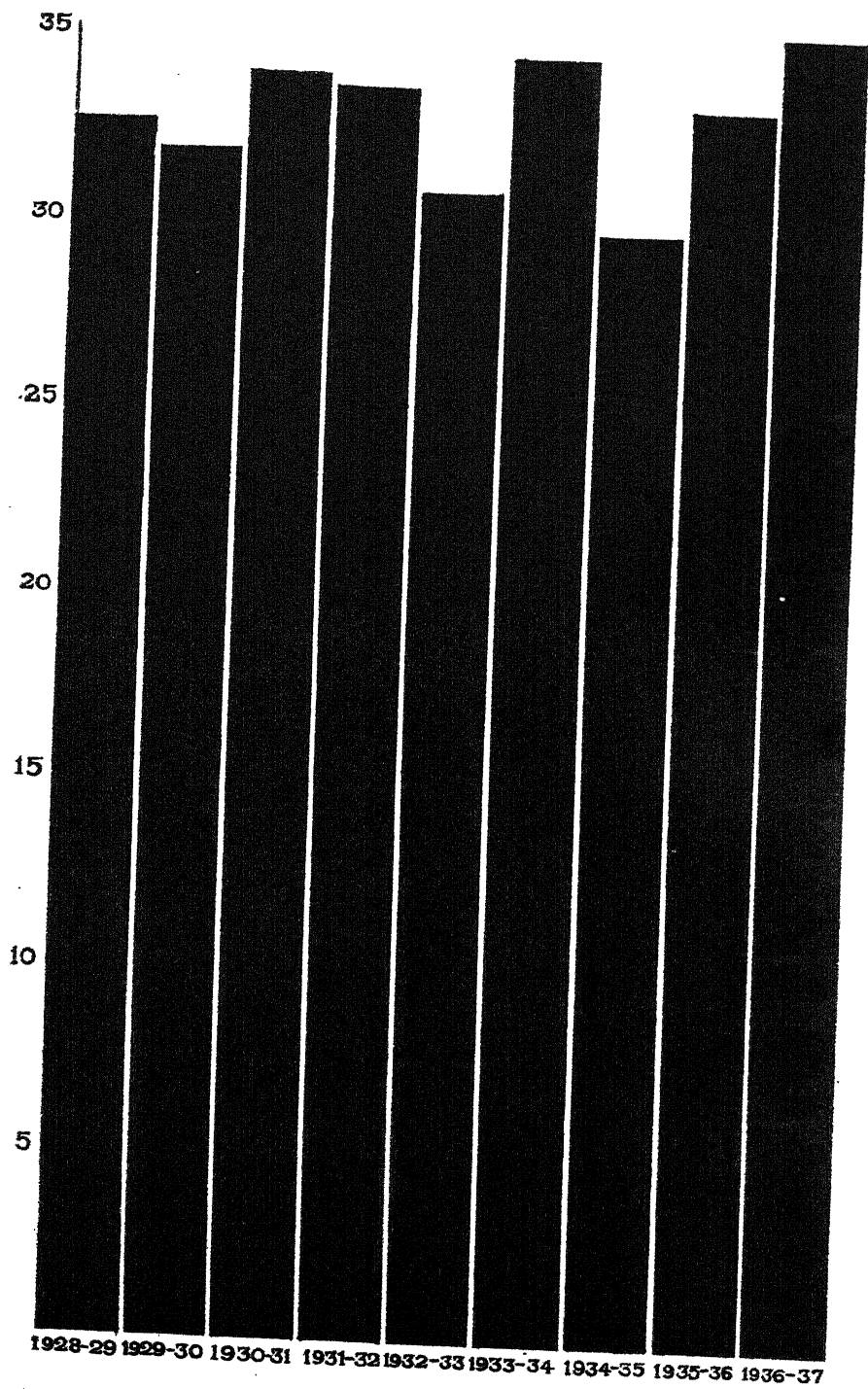
received heavy manuring.* The cultivation of sunflower crop is confined to Europe and principally to Russia, where it occupies an important place in the agriculture of some provinces. The seed-heads are harvested before the seeds are quite ripe and dried, and the seeds are freed either by holding the heads against a revolving cylinder studded with spikes or by special machinery. The total world production of sunflower seed may be put at over 2,000,000 tons. Germany, Holland and Denmark are the principal importers.

12. POPPY, 13. NIGER & 14. MOWRA SEEDS

Among other seeds which are contributories to the sum total of the oilseed crop of the world, may be mentioned poppy seed, niger seed and mowra seed. All of these are mostly grown in India, and will, therefore, be dealt with, in detail, in the next chapter on "Oil-seeds in India."

*E. R. BOLTON & R. G. PELLY, *Oils, Fats, Waxes and Resins*, p. 62.

WORLD PRODUCTION OF OIL-SEEDS.
(IN MILLION TONS)



WORLD PRODUCTION AND TRADE

World Production of Oil-seeds (000) Tons

Oil-Seed	...	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37
Castor Seed	...	130	138	111	123	123	146	153	149	112	125
Linseed	...	4,052	3,759	3,119	4,018	4,094	3,278	3,159	3,543	3,207	3,055*
Groundnut	...	4,833	5,246	4,803	5,453	5,098	5,512	5,974 •	4,665	5,305	5,035
Rapeseed	...	1,202	1,068	1,106	1,324	1,199	1,200	1,222	1,200	1,255	1,310
Copra†	...	1,233	1,499	1,554	1,344	1,336	1,311	1,600	1,593	1,571	1,571
Cotton seed	...	10,392	11,285	11,305	11,142	11,417	10,334	11,643	10,305	11,762	13,996
Sesame seed	...	689	677	709	797	697	718	728	610	734	728
Soya bean	...	6,119	6,021	6,004	6,732	6,614	5,728	6,680	4,937*	6,378	6,319
Hemp seed	...	590	600	626	416	371	324	326	276	285	285
Palm Kernel	...	485	501	515	480	482	595	516	500	650	650
Sunflower†	...	1,600	2,159	2,200	2,300	2,500	2,000	2,350	2,000	2,000	2,000
Poppy seed	...	16	14	13	14	13	13	13	13	13	13
Mowra seed and Niger seed	...	12	14	7	5	5	5	5	5	5	5
Total ‡	...	31,353	32,981	32,072	34,148	33,895	31,164	34,369	29,801	33,367	35,092

* These figures are taken from the Review of the Oilseed, Oil and Oilcake Markets.

† Shows the exports.

‡ Estimates.

N.B.—This table is based upon the figures contained in the statements appearing in this chapter.

CHAPTER II

OIL-SEEDS IN INDIA

General.—A perusal of the foregoing chapter has shown that India is not only one of the leading oilseed-producing countries of the world, but is, perhaps, the only country which produces, in commercial quantities, greater varieties of oil-seeds than any other country of the world. With the exception of palm kernels, olives and soya beans, she makes an important contribution to all the principal kinds of oil-seeds which form the basis of the world's oilseed-crushing industry.

It is admitted, that Indian oil-seeds, on the whole, compare well with those produced in other countries and in some cases, viz., copra and linseed, represent the best grades on the market. Indian seeds being generally of a good quality have met with wide recognition in the international markets where Germany, France, Italy, the United Kingdom and other oilseed-crushing countries are the principal purchasers. Indian seeds have been, so long, eagerly sought after in the world's markets, and in the case of castor seed, mowra seed and niger seed India holds a virtual monopoly.

The great part that India plays in the world's oilseed markets is best illustrated by the following table which shows the percentage of the world's demand in each oil-seed supplied by India.

<i>Oil-seed</i>	<i>India's share in the world trade (1934-35)*</i>		
Mowra seed	100%
Cotton seed	1%
Sesame seed	3%
Castor seed	100%
Rapeseed and mustard	36%
Groundnuts	29%
Linseed	13%
Poppy seed	75%
Niger seed	100%

Place of Oil-seeds in Indian Agriculture.—Oil-seeds occupy an important position in Indian agriculture. Of the total net area sown in British India and the Native States, which was on an average about 299,000,000 acres during the years 1930-31 to 1934-35, the area under oil-seeds was over 22 million acres, thus representing about 7.5% of the total net area sown under all crops. In matters of individual crops the position of oil-seeds is still better, as they come after rice, wheat and

**Hand Book of Commercial Information for India*, 3rd Edn., p. 204.

Table showing the position of Oilseed Crops among the Chief Food and Non-food Crops in India. Area sown in (000) acres.

	1923-24	1924-25	1925-26	1926-27	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36†	1936-37‡
Rice ...	80,786	82,987	84,179	81,969	80,335	84,986	82,749	84,323	85,376	83,985	84,724	83,521	81,841	83,556
Jowar ...	35,375	37,139	34,319	34,834	35,099	34,824	38,028	38,229	36,664	34,100	32,761	35,956	32,628	—
Wheat ...	30,303	30,508	29,605	30,151	30,859	30,840	30,412	30,836	31,005	32,976	35,790	34,478	33,605	32,720
Oil-seeds*	19,339	20,465	20,388	19,753	21,664	24,080	22,045	22,645	22,160	24,826	24,983	20,629	25,199	27,008
Cotton ...	22,196	24,539	25,570	22,328	21,495	23,792	22,699	20,954	21,149	22,483	24,136	23,830	25,994	25,050

Source :—Agricultural Statistics of India, Vols. I and II.

*Area under poppy seed is not included in these figures.

†Figures for 1935-36 have been taken from the Estimates of Area and Yield of Principal Crops in India.

‡Figures for 1936-37 are collected from the estimates of principal crops appearing in the Indian Trade Journal.

—Figures not available.

OIL-SEEDS IN INDIA

In the following pages we propose to make a detailed study of the principal oil-seeds in India.

1. LINSEED

General.—Linseed is one of the most ancient fibre plants of India. The plant is identical with the flax plant of Europe, but having long been cultivated in India for its seeds only has developed a branching habit of growth, which renders it useless, or at any rate lessens its value, for fibre.

Cultivation and Soil Requirements.—Linseed, requiring as it does the same kind of land as wheat and gram, is grown generally together with the above crops in the month of September, or a little later immediately at the close of the monsoon. Thorough and deep cultivation is as beneficial to this crop as to wheat. The plants are cut down, when ripe, at the end of February or the beginning of March and the seeds extracted by flailing. The straw is useless as fodder. It is said, that green plants of linseed eaten by cattle prove fatal to them.

Varieties.—There are two readily-recognised varieties grown which yield the commercial varieties known as *yellow* and *brown* linseed. The brown variety is further graded into *bold*, *medium* and *small*. The *yellow* variety has no such grades and is preferred to the *bold brown* variety because of the higher percentage of oil and the lighter colour of the resultant oilcake which commands a slight premium.

The Indian linseed is, on the whole, richer in oil than seeds from other countries as is shown by the oil contents of seeds from the leading linseed-producing countries.

Russia	..	..	..	..	32% to 38%
Argentina	..	..	..	..	35% to 36%
China	..	..	..	..	31% to 38%
Morocco	..	..	..	..	36% to 40%
India	..	..	..	..	37% to 43%*

Area under Cultivation and Yield.—Linseed crop is sown either mixed or pure in almost all the important provinces except Madras. The accompanying table and the diagram show that the largest producer of linseed in India is the C.P. and Berar followed by the U.P., Bihar and Orissa. From 1925-26, when the total area under linseed was over 3½ million acres, it fell to less than 3 million acres in 1929-30, but a further fall was checked in 1930-31 when it rose again to over 3 million acres. During the years that have followed 1930-31, the increase has been maintained. It is hoped, that on account of the preference enjoyed by the Indian linseed in the United Kingdom market the area under the crop will not fall.

* KAPILRAM H. VAKIL, A Series of Lectures to the Staff of Messrs. Volkart Bros., Bombay.

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Area under Linseed in Different Provinces in (000) acres and Total Yield in (000) tons.

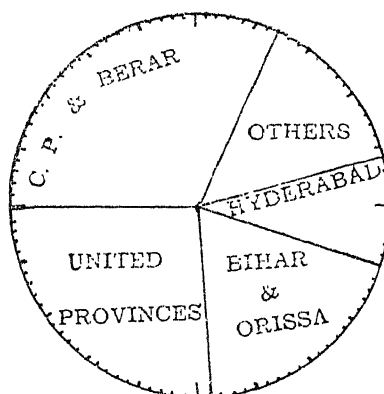
Provinces & States	...	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37*
Bombay †	...	145	147	131	130	134	119	107
Bengal	...	116	126	125	124	126	98	131
U. P.	...	310	321	228	213	240	195	898
U. P. ‡	...	644	589	624	593	622	650	
Punjab	...	28	32	28	32	26	28	31
Bihar and Orissa ...	...	654	662	641	631	599	542	550
C. P. and Berar†	...	777	1,031	1,116	1,061	1,125	1,261	1,261
Hyderabad	...	253	306	269	367	399	416	468
Rajputana								
(Kotah)	...	82	94	93	73	92	94	94
Bhopal	...	...	...	44	37	47	47	45
Total Area	...	3,009	3,309	3,299	3,261	3,341	3,457	3,595
Total Yield	...	377	416	406	376	420	388	418

Source :— Estimates of Area and Yield of Principal Crops in India.

*Figures for 1936-1937 have been collected from the estimates of crops appearing in the Indian Trade Journal.

†Includes Indian States.

‡These figures represent "mixed crops," i. e. seeds sown in the same field with other crops. The estimates for the mixed crops of U. P. are highly conjectural, hence they are shown separately.



This diagram is based upon the average area under the crop (1930-31 to 1934-35)

2. GROUNDNUT

History.—There is no Indian name that would imply an ancient knowledge of this plant. It can be assumed as fairly correct, that the credit for the introduction of the plant belongs to the Portuguese Jesuit Fathers, who followed Vasco Da Gama after his first landing in India.* The flora of the Western India includes a large number of specimens whose original home was South and Central America. All these plants were brought into this country by these missionaries. The so-called indigenous variety has developed out of these Brazilian seeds. In the last decade of the 19th century, the so-called indigenous varieties deteriorated in quality and this led to a great contraction in area in the Bombay and the Madras Presidencies. At that time the disease-resisting seed with a much higher oil content was introduced from Senegal and Mozambique. This brought about a remarkable recovery in the yield and the quality; and the area under the crop has steadily increased since then.

Time for Sowing & Lifting.—The season of sowing varies greatly in the two Presidencies in which groundnut is chiefly grown. It even varies in the districts of the same Presidency. Taking the general case, it appears, that the crop is sown from the month of May to August and is harvested from the month of November to January. A summer variety is also grown in the Madras Presidency forming about 5% of the total area under the crop. This variety is sown in the month of February-March and harvested in July-August. Generally speaking, the Bombay crop comes in season in November and the Madras crop about six weeks after.

Area under the Crop & Yield.—The accompanying table shows the area under groundnuts in different parts of India where it is largely grown. The Madras Presidency is the largest producer. There the crop is as highly valued as the cotton crop in the Bombay Presidency. The chief centres of production are Arcot, Chinglepet, Bhavani and the Cauvery valley. The next largest producer of groundnuts in India is the Bombay Presidency, where Poona, Sholapur, Satara, Khandesh, Karnatak and Kolhapur are the main producing districts. Burma comes third in matters of area under groundnuts, but it has now been preceded by Hyderabad (Deccan) where the area has increased by leaps and bounds during the last five years. Area under the groundnut crop and the consequent yield of groundnuts have increased considerably during the last thirty-five years. During the quinquennium 1900-1901 to 1904-1905, the average yield of groundnuts was 358,000 tons. This gradually rose to 2,230,000 tons during 1925-26 to 1929-30. The present (1936-37) figure of production stands at 2,803,000 tons.

*E. LIEBERHERR. *A Few Notes on Indian Groundnuts*, p. 1.

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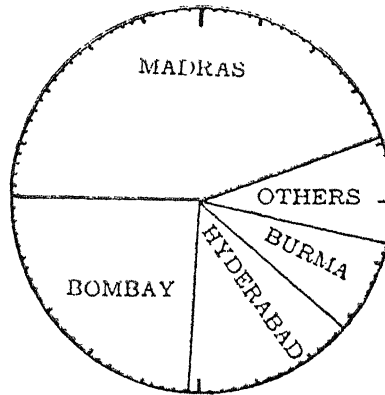
Area under Groundnuts in Different Provinces in (000) acres and Yield in (000) tons.

Provinces & States	...	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37*
Madras	...	3,572	2,635	3,517	3,779	2,323	2,520	3,427
Bombay (incl. Native States)	...	1,603	1,507	1,783	1,844	1,545	1,297	1,752
Hyderabad (Dn.)	...	691	775	1,118	1,384	962	1,059	954
Burma	...	565	408	522	615	619	660	729
C. P. and Berar	...	148	164	185	194	148	135	149
Mysore †	...	...	...	284	188	163	187	200
Total Area	...	6,579	5,489	7,409	8,064	5,760	5,857	7,211
Total Yield of nuts in shells	...	2,767	2,276	3,007	3,330	1,884	2,258	2,803

Source :— Estimates of Area and Yield of Principal Crops in India.

*Figures for 1936-37 are collected from the estimates of crops appearing in the Indian Trade Journal.

†Figures prior to 1932-33 are not available.



The above diagram is based upon the average area under the crop from 1930-31 to 1934-35

Trade Varieties.—About 20 years ago, there were only two main varieties of groundnut on the market, viz., *Bombay Bold* and *Coromandel Machine Shelled*, but due to the importation, from time to time, of several new types of seeds many more varieties have now cropped forth and are finding increased favour in comparison with the two original varieties.

OIL-SEEDS IN INDIA

The following classification of the different varieties of groundnut is authoritative.*

Commercial name of the variety.	Origin of the seed.	Districts where it is grown.	Oil contents.
1) Coromandel Machine Shelled	Imported from Mozambique. The seed is also called Mauritius seed.	Satara District. Madras.	44 to 49 %
2) Bombay Bold	Big Japanese seed.	Sholapur, Barsi, Latur, Gulbarga, Kolhapur, Karad and Gujerat (Kathiawar)	43 to 47 %
3) Khandesh Natal	Spanish Pea-nut from U. S. A.	Khandesh, Berar and C. P., Pollachi, Coimbatore and Pondicherry side.	48 to 50 %
4) Small Japan or Red Ponani, Red Natal or Lal Boria	Small Japanese seed.	Gujarat, partly in Kolhapur, Karad, Berar, Central India & also in Pollachi area.	46 to 49 %

Oil & Oilcake.—Shelled groundnut kernels yield over 40% of oil. The cake forms a valuable cattle feed, and is also used as manure to a limited extent.

3. RAPE AND MUSTARD SEEDS

General.—The Indian name for rapeseed is *sarson*, and that of mustard seed, *rai*. The cultivation of these two seeds is indigenous to India and dates back to very old times. Although much confusion exists between these two seeds, *sarson* is easily distinguishable from *rai*. When reaped, the seeds are distinguished by their white colour, and when brown, the seeds are distinguished readily from those of *rai* by their larger size and smooth seed-coat. *Rai* is distinctly reddish-brown in colour.

Cultivation.—Rapeseed is usually grown with wheat or barley or in gardens with carrots and *ram-dana*, while mustard is usually grown by itself as it is a tall crop and has the tendency to smother other crops grown with it. Mustard seed is sown in September, i.e. about six weeks before the regular *rabi* sowing, and it is harvested in February; while rapeseed is sown and harvested later. There are, however, early and late varieties of both the crops.

Area under the Seeds & Yield.—Excepting the small area in the South which is devoted to mustard seed and of which no separate records are available, the cultivation of rape and mustard seeds is entirely restricted to Upper India. Average yield of rapeseed is about 4 cwts. per acre, but where it is grown as a pure crop, the yield is higher.

* E. LIEBERHERR, *A Few Notes on Indian Groundnuts*, p. 25.

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The following table which gives the provincial distribution of these seeds shows, that the area under the two crops is about six million acres on an average. The U.P. has the largest area under cultivation and is followed by the Punjab, Bengal, Bihar and Orissa. In the Punjab, they are grown in the districts of Ferozepore, Hissar, Jhelum, Rawalpindi, D. I. Khan, Lahore, Gujrat, Dehra Ghazi Khan, Jhang and Karnal. The total annual yield of the seeds has been recorded as ranging from 900,000 tons to over 1,000,000 tons during the last five years.

Area under Rapeseed and Mustard Seed in (000) acres and Total Yield in (000) tons.

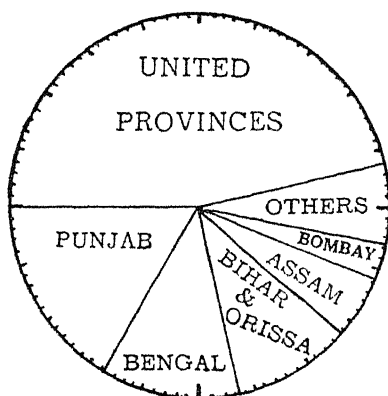
Provinces & States	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37†
Bombay (incl. Sind and States)...	208	165	236	225	150	160	163
Bengal ...	769	770	716	693	724	711	740
U. P. ...	240	273	327	218	206	2,578	2,770
U. P. (x) ...	3,230	2,659	2,484	2,594	2,444		
Punjab ...	889	1,150	1,158	1,129	695	705	949
Bihar & Orissa (a) ...	657	645	627	598	600	576	557
Assam ...	363	302	271	330	307	363	360
N.W.F.P. ...	83	107	126	113	67	93	72
Delhi ...	8	8	8	4	5	4	11
Hyderabad (Dn) ...	11	10	10	12	12	13	11
Baroda ...	21	21	20	40	15	13	11
Rajputana (Alwar) ...	90	40	40	38	20	40	56
C. P. and Berar ...	...	...	...	...	71	68	71
Total Area ...	6,632	6,220	6,094	6,034	5,316	5,333	5,771
Total Yield ...	988	1,025	1,042	957	900	957	970

Source :— Estimates of Area and Yield of Principal Crops in India.

†Figures for 1936-37 have been collected from the estimates of crops appearing in the Indian Trade Journal.

(x) These figures show 'Mixed crop.' The estimates for the mixed crop of U. P. are conjectural and are, therefore, kept separate.

(a) Excluding Feudatory States.



The above diagram is based upon the average area under the crop (1930-31 to 1934-35)

OIL-SEEDS IN INDIA

Trade Varieties.—There are several commercial varieties of rapeseed but the chief varieties recognised by the exporters are *toria*, brown-bluish in colour chiefly produced by the Punjab and exported from the port of Karachi; *Ferozepore Brown* and *Brown Cawnpore* chiefly shipped from Bombay and Calcutta; *Brown Delhi* mainly exported from Bombay and Karachi. *Yellow Bold* from Bombay and *Yellow Small* from Bombay and Calcutta. The Cawnpore variety contains 44% to 49% of oil, while the Punjab variety is comparatively poorer, as it contains about 37% to 45% of oil. The Bombay varieties are the poorest in matter of oil content.

Oil & Oilcake.—The oil content of rapeseed is 42% to 45%. The oil is commonly used for cooking purposes and also to anoint the body. Rapeseed cake is chiefly used as cattle fodder in India.

4. SESAME SEED

General.—The cultivation of sesame in India dates back to the remotest antiquity as references to it in ancient Sanskrit literature amply testify. But the cultivation does not seem to have been placed on a systematic basis till the eighties of the 19th century. It is since 1895 that its cultivation in India has grown to enormous figures and is capable of further expansion.

Cultivation.—Sesame is grown all over India as a pure crop and in certain localities, such as the U.P., as a mixed crop. There are two crops of sesame in India, (1) *rabi* and (2) *kharif* crop. There are various cultivated forms of the plant, some suitable for the *rabi* crop and others for the *kharif* crop; but at least two of these, one with white seeds and the other with black, are easily recognised. The latter is the much more common form, as it is reported to yield superior oil. The *rabi* crop, says Sir George Watt, is most extensively grown on black or medium black cotton soil in alternation with cotton or jowar. If sown in September it is ready in January. The *kharif* crop is usually sown with other crops such as jowar, bajra and cotton. It ripens in October or November.

Area under Cultivation & Yield.—The accompanying table gives the provincial distribution of sesame and shows that the seed is grown in almost all provinces of India. Average area under this seed is over 5 million acres and Burma and the U.P. are the leading producers. In the U.P. it is grown as a mixed crop, whereas in Burma it is grown as a pure crop.

Sesame is very largely cultivated as a 'catch crop' mixed with other crops, and therefore, it is obviously impossible to form any reliable estimate of its out-turn per acre which varies greatly with the amount of seeds sown. The average yield of the so-called un-mixed crop can be put at about 300 lbs. to an acre. The All-India average annual yield during the five years (1930-31 to 1934-35) was 499,000 tons.

Trade Varieties.—There are five commercial varieties of this seed, viz., *white*, *black*, *yellow*, *red* and *mixed*. The first named variety is regarded as one with the highest oil contents. The red variety is confined to the C.P. and Hoshangabad, and is also

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*Area under Sesame Seed in Different Provinces in (000) acres and
Total Yield in (000) tons.*

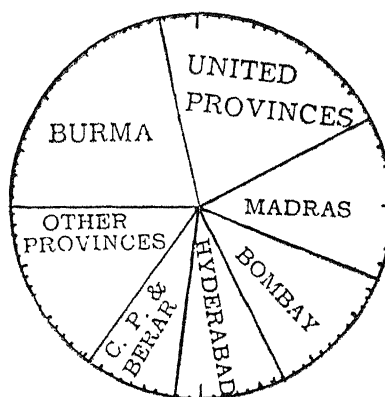
Provinces & States	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37*
Madras	746	747	836	836	653	727	783
Bombay (including States)	672	691	628	664	586	516	521
Bengal ...	153	161	161	158	158	166	184
U. P.† ...	1,104	1,212	1,227	1,297	1,057	1,179	1,068
Punjab ...	126	162	137	94	109	85	98
Burma ...	1,322	1,308	1,600	1,575	1,439	1,529	1,466
Bihar & Orissa‡...	189	200	200	205	202	240	225
C. P. and Berar	577	505	604	547	338	413	435
Ajmer— Merwara	15	20	21	24	21	21	21
Hydera- bad (Dn.)	515	508	601	581	509	588	547
Baroda ...	69	81	71	75	69	55	53
Rajputana	52	44	39	40	38	34	39
Bhopal ...	...	...	...	...	9	77	81
Total Area	5,618	5,639	6,256	6,217	5,230	5,664	5,543
Total Yield	526	476	551	537	406	463	482

Source :—Estimates of Area and Yield of Principal Crops in India.

*Figures for 1936-37 are collected from the estimates of crops appearing in the Indian Trade Journal.

†“Mixed crop.” The figures are unnecessarily inflated because of sesame seed being a mixed crop.

‡Excluding Feudatory States.



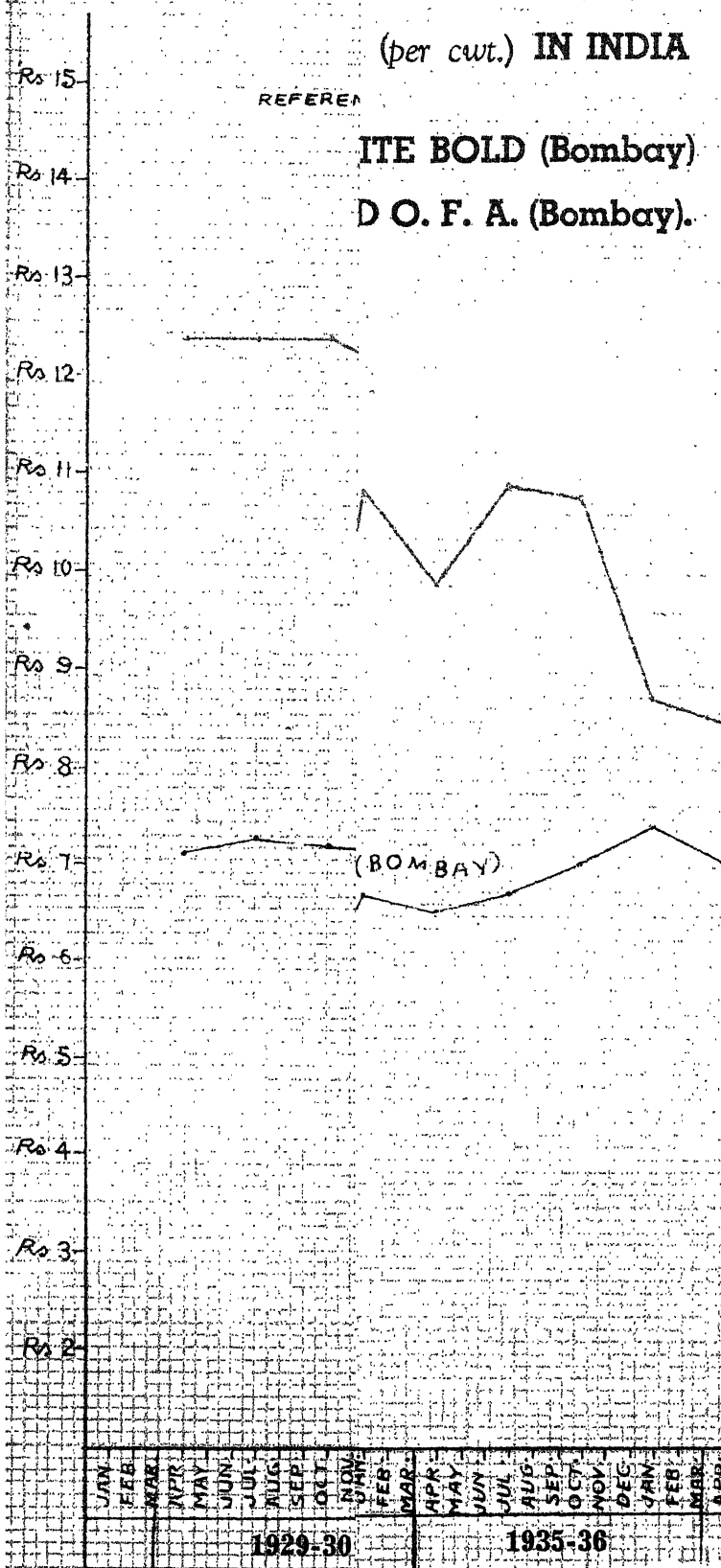
The above diagram is based upon the average area under the crop (1930-31 to 1934-35)

(per cwt.) IN INDIA

REFEREN

ITE BOLD (Bombay)

D O. F. A. (Bombay).



OIL-SEEDS IN INDIA

said to contain a high percentage of oil. The average oil contents of different varieties of sesame seed according to Mr. Kapilram H. Vakil, Bombay, are as follows:—

Red Variety	..	..	..	..	50.16%*
White "	..	..	..	..	49.90%
Black "	..	..	..	..	48.59%
Brown "	..	..	..	..	47.60%
Mixed "	..	..	..	..	47.00%

Oil & Oilcake.—Most of the oil obtained from sesame seed is used for cooking purposes, or for anointing the body. The cake is commonly used as a cattle fodder.

5. CASTOR SEED

General.—Botanical authorities differ considerably on the point whether the castor plant is a native of India or Africa. But whatever this may be, there is no gainsaying the fact, that the cultivation of the castor plant dates back to the remotest antiquity in India. There are references to the plant in *Sushruta's Ayurveda* in such terms as to preclude the possibility of the passage in question denoting an important drug. Two varieties, red and white, are described, thus showing an intimate acquaintance with the plant.

Cultivation.—The castor plant is both a *rabi* and a *kharif* crop and takes about eight months to mature. The method of cultivation and the time of sowing differs considerably from Province to Province. In Bengal, three varieties, a small, a medium and a large-seeded plant are grown. The first and the last varieties are sown from May to July, and are ready in the months of January and February. The winter variety is sown in September and the seeds are gathered in the months of March and April. In the U.P. it is generally sown as a subordinate crop in rainy season with "bajra," "arhar" or "jowar." In the C.P. the large-seeded crop is generally reared as a rainy-season crop and the small-seeded variety a cold-season crop. In the Punjab, the crop exists on embankments near canals, especially in the Jhelum and the Gurgaon districts, but nowhere is it cultivated on a systematic scale. In Bombay, two varieties of the plant, viz., the large and the small-seeded, are recognised.

Area under Cultivation & Yield.—As already referred to in the previous paragraph, the castor plant is grown widely all over the country, but as the crop is grown as a 'mixed crop,' no accurate statistics of the area under the crop can be available. The accompanying table gives as accurate an idea as possible of the area under castor seed in different provinces and the Native States from 1930-31 to 1936-37. Area under the crop on an average can be put to about one million four hundred acres, and the fair average yield at about 300 to 400 lbs. of seeds per acre.

It is difficult to arrive at the exact total yield of the crop. According to Mr. C. W. E. Cotton, the out-turn may be

* K. H. VAKIL, A Series of Lectures to the Staff of Messrs. Volkart Bros., Bombay.

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put at between 250,000 and 300,000 tons per annum, but according to figures collected by us it does not go to that figure. Hyderabad (Dn.) is the largest producer, Madras, Bombay and Mysore follow.

*Area under Castor Seed in Different Provinces in (000) acres and
Total Yield in (000) tons.*

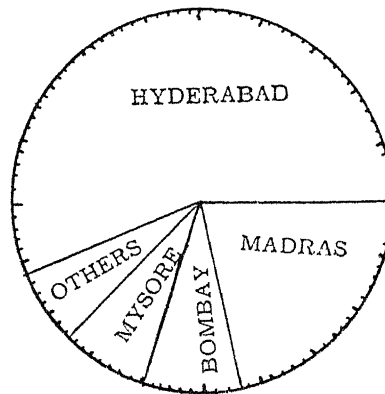
Provinces & States	...	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37*
Madras	...	233	330	355	308	278	252	240
Bombay†	...	103	123	129	117	119	96	92
U. P.‡	...	7	10	15	12	7	7	9
Bihar and Orissa	...	55	54	52	57	55	52	54
C. P. and Berar	...	46	38	39	38	32	29	30
Hyderabad (Dn.)	...	792	856	838	825	786	834	781
Mysore	...	111	106	111	106	94	101	103
Baroda	...	60	66	78	81	76	83	68
Total Area	...	1,457	1,583	1,617	1,541	1,448	1,455	1,377
Total Yield	...	120	146	151	144	105	121	126

Source :— Estimates of Area and Yield of Principal Crops in India.

*Figures for 1936-37 are collected from the estimates of crops appearing in the Indian Trade Journal.

†Including Native States and Sind.

‡Excludes figures for the 'mixed crop' for which data are not reliable.



This diagram is based upon the average
area under the crop (1930-31 to 1934-35)

Trade Varieties.—Four chief varieties are recognised by the trade, viz., *Bombay Small*, *Madras Small*, *Cawnpore* and *Calcutta*. The first two varieties are small, whereas the latter two are bold varieties, *Cawnpore* variety being even bolder than *Calcutta*. The small varieties generally yield a higher percentage of oil than the bold varieties.

Oil & Oilcake.—The oil content of castor seed is about 40%. The oil is largely used as an illuminant and also as a lubricant. It is also used as a medicine. The cake, because of the presence of a poisonous substance called ricin, is unsuitable for the cattle. However, it forms a useful garden manure.

OIL-SEEDS IN INDIA

6. COPRA

General.—It is one of the chief products of the coconut-palm, which is so widely disseminated throughout the tropical countries, that it is impossible to distinguish its original habitat. It flourishes with equal vigour in India, Ceylon, the East Indies, Tropical Islands in the Pacific Ocean and the West Indies. It, however, attains its greatest luxuriance and vigour on the sea-shore and it is most at home in the innumerable small islands of the Pacific Seas of the vegetation of which it is extremely characteristic. The tree generally takes from five to ten years before it bears fruit, and goes on bearing fruit for about 80 years.

Area under Coconut-Palm and Yield.—The coconut-palm grows all along the coast of India and penetrates as far as over 100 miles in the country. In certain parts it is even found at a distance of over 200 miles in the interior. Although it may be found in forests, it is not a forest tree. In India coconut-palm grows abundantly on the Malabar and the Coromandel coasts. More generally, the Indian region may be said to be the lower basins of the Ganges, the Brahmaputra and the Irrawaddy, also the Malabar and the Coromandel coasts and the adjacent islands. The Madras Presidency is the chief producing area. Kathiawar, Kanara and Ratnagiri districts of the Bombay Presidency and the Native States of Travancore and Cochin are the places where coconut-palm grows abundantly.

It is difficult to attempt to estimate the total area under coconut-palm, but the following table, which we have compiled from Government publications, gives an approximate idea of the area under coconut-palm in different parts of India.

It is still more difficult to arrive at the total annual yield of copra from the coconut-palm. It may be said that, on an average, a coconut-palm yields about 50 to 75 nuts a year, and the out-turn per acre may range from 4,000 to 5,000 nuts equivalent to 1 ton of copra.* This means that the total yield of copra in India can be put to a figure equivalent to the total acreage under the palm.

Area under Coconut-palm in Different Provinces in (000) acres.

Provinces and States	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37
Madras†	1,170	1,156	1,194	1,228	1,222	1,222	1,222
Bombay†	27	27	27	27	27	27	27
Bengal	12	12	12	12	12	12	12
Bihar and Orissa	28	28	28	28	28	28	28
Burma	11	11	10	10	10	10	10
Mysore	146	147	162	163	163	163	163
Total Area	1,395	1,381	1,435	1,494	1,465	1,465	1,465
Yield in (000) tons	1,395	1,381	1,435	1,494	1,465	1,465	1,465

Source :—Agricultural Statistics of India, Vols. I and II.

†Includes Native States.

N.B.—As there is no reason to believe that the area under coconut-palm has changed considerably, we have retained the 1934-35 figures for 1935-36, and 1936-37.

*C. W. E. COTTON, *Handbook of Commercial Information for India*, p. 191.

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Trade Varieties.—Malabar Copra, which is the best grade of copra available in India, is sorted out into different varieties, according to the method of preparation and the oil contents therein. The best white quality, generally small in size, is known as the *Bombay Market Quality*. This quality is generally not crushed as it contains 70% of oil and fetches a high price. The next quality is known as the *Office Pass*. This is so called, as this is the quality largely approved of by the exporters. It contains about 68% of oil. The third quality of Malabar Copra is called *Second Class Office Pass*. This is deep brown in colour and contains about 50% of oil.*

Copra and the Method of its Preparation.—It will not be out of place here to mention, in as few lines as possible, the method of preparing copra from the nuts. The general method of preparation, as practised in India, consists in first breaking the husked nuts into two equal parts, and exposing them to the sun. A few hours' exposure to the direct rays of the sun causes sufficient shrinkage of the meat so as to facilitate its removal from the shell, after which the meat is subjected to frequent turnings to a further period of drying. In the opinion of experts four to five days of sun-drying is sufficient; but in some climates provision is often made against rains; and recourse is taken to drying-trays with wheels running on rails for the purpose of running the trays under cover, with as little delay as possible, when rains set in. This sort of sun-drying, especially if combined with a preliminary treatment with sulphur fumes to destroy fungoid growths, yields very good results; but climatic conditions do not always render it practicable, and so it is often necessary to resort to artificial drying. The best Malabar copra is sun-dried in the sand by the sea-shore or in cement yards, in seasons when there is no fear of any damage from rains.

Coconut Oil & Poonac.—As already pointed out copra has very high oil contents. The oil was in general use as the principal illuminant before kerosene oil was introduced into India. At present it is not only in great demand for the manufacture of edible oils and fats, but also in connection with soap-making and the preparation of toilet materials. It is also used in the preparation of confectionery.

Poonac is the name given to the residual cake left after the oil is extracted. The cake is mixed with a little gum arabic and is used as a foodstuff for the cattle.

7. COTTON SEED

General.—The cotton seed of commerce is obtained from the cotton plant. The plant, when ripe, bears balls of cotton which are divided into three to five compartments, each containing a lock of seven to nine seeds to which the lint—the actual cotton—is attached. Previously, the seeds were taken off by hand, but the introduction of machinery has brought about a revolution in the history of cotton seed. In India picking is done with hands.

*K. H. VAKIL, A Series of Lectures to the Staff of Messrs. Volkart Bros., Bombay.



Copra-Drying Yards
(*The Tata Oil Mills Co., Ltd., Tatapuram.*)

OIL-SEEDS IN INDIA

Area and Yield.—There are two distinct seasons of cotton growing in India. The earlier crops are those of the Central and Northern India, whereas the latter ones are those of the South. Taking into account the whole of the Indian cotton crop, the sowing season covers the period from March to August and the picking operations last from October to December.

Yield of Cotton Seed in each Province in (000) tons.

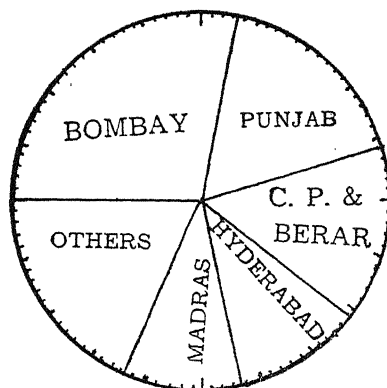
Provinces & States	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37*
Madras†	136	151	146	161	159	194	190
Bombay†	456	464	543	502	495	408	380
C. P. and Berar	405	158	293	258	218	228	290
United Provinces†	115	74	60	74	69	70	62
Central India States	76	46	47	56	47	64	68
Hyderabad (Dn.)	233	181	190	201	158	222	178
Punjab†	274	219	232	333	443	558	624
Other Provinces and States	715	377	579	225	128	318	336
Total Yield‡	2,410	1,660	2,090	1,810	1,717	2,062	2,128

Source :— Estimates of Area and Yield of Principal Crops in India.

*Figures for 1936-37 are prepared from the provisional estimates appearing in the Indian Trade Journal.

†Includes Native States.

‡The grand total is based upon the net exports and consumption of cotton and not on the figures of production of cotton available, as the former are more correct.



This diagram is based upon the average area under the crop (1930-31 to 1934-35)

As cotton seed is obtained as a secondary product from cotton proper, it would be misleading to consider the area under the cotton crop as the area under cotton seed. It would unnecessarily inflate the total area under oil-seeds in India. It has, therefore, been thought proper to give a table showing the total yield of cotton seed only, and not the area under the cotton crop. The figures have been calculated by us on the basis of

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the total ginned cotton produced in India. As a general rule, it is authentically stated that seed-cotton thirds itself at the gin, i.e. two pounds of cotton seed are obtained from three pounds of cotton. The above figures have been arrived at on the basis of this co-efficient. The figures in the accompanying table reveal that the total annual yield of cotton seed in India is over 2,000,000 tons.

Trade Varieties.—For technical and commercial purposes, the seeds are classed under two varieties: (1) black or clean, i.e., those which have no short fibre or fluff or lint on their outer skin, (2) white or fuzzy, i.e. those which are covered with short lint not easily removable by ginning. The Indian seeds and the American up-land seeds are what are known as 'white' or 'fuzzy' owing to the short lint or fuzz, whereas the Egyptian and the Sea-Island variety seeds are known 'clean' as they do not possess any short lint or fuzz.

In India the commercial varieties met with in the country are named after the country (province) of origin. The varieties most commonly known are *Bombay*, *Delhi-Cawnpore*, *American*, *Comilla* and *Rangoon*. The first three are exported from Bombay while *Comilla* is exported from Calcutta and *Rangoon* exported from Burma. The best-known variety is the *Bombay* variety, though in point of excellence it is surpassed by the *American* seeds. The other three types are regarded as inferior as they contain a large percentage of damaged and worm-eaten seeds.

The Indian cotton seed stands in sharp contrast with the Egyptian cotton seed which has no fluff on the husk, and contains a higher percentage of oil. The Egyptian seed keeps well in storage and does not get heated up, and, in consequence, yields better quality of oil. For this reason, the Egyptian seed fetches a better price in the Continental markets. The Indian cotton seed, no matter how well it be handled from the gin to the shipping port, invariably gets deteriorated in quality by the time it reaches the oil miller in Europe. The deterioration is attributed to the fluff, the foreign matter, the damaged seeds and to the damp and hot holds of the ships.

Cotton Seed Oil & Cake.—The available quantity of oil from the seeds is a very variable factor. The oil yield differs according to the crop and even the season of milling. As a rule, the Indian varieties contain 18 to 19% of oil. Cotton seed, on pressing, yields cake which has high manurial value, and is of considerable importance as a food both for human beings and for the cattle.

8. POPPY SEED

General.—Poppy seed is obtained from a plant botanically called *Papaver Somniferum*. This plant has been cultivated for opium in countries like Macedonia, Asiatic Turkey, Persia, India and China from a long time. In many parts of Europe a form of poppy is cultivated for the sake of the oil-bearing seeds only. The poppy plant in India is generally sacrificed for the sake of opium which is the more valuable product. If it is not done so, the poppy yields better and bolder seeds with higher oil contents.

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Cultivation, Area & Yield.—Poppy is a *rabi* crop and is sown in India in winter months, and the seeds come on the market in the month of April; and much of the business for the year is over by July.

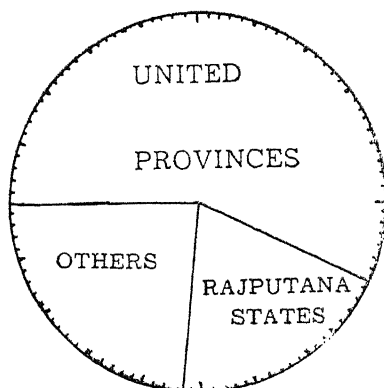
In India poppy is mostly cultivated in certain districts of the U.P. and Bihar, which once formed a part of the Bengal Presidency; and certain Indian States in Central India, particularly Indore, Gwalior, Bhopal, Rutlam, Dhar, Mewar and Kotah. It may be pointed out here, that in British India cultivation of poppy is permitted only under licences granted to the cultivators,

Area under Poppy Seed in Different Provinces and States in (000) acres.

Provinces & States	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37
United Provinces	40	41	30	16	8	8	8
Punjab (incl. States)	3	3	3	1	1	1	1
Gwalior ...	7	8	8	5	5	...	...
Rajputana States	13	13	11	9	7	...	...
Central India States	4	3	2	1	1	...	...
Other parts ...	3	1	1	1	...	...	...
Total Area ...	70	69	55	37	28	28	28

Source :— Agricultural Statistics of India, Vols. 1 and 2.

...Figures of area under poppy for 1935-36 and 1936-37 are not available.



This diagram is based upon the average area under the crop (1930-31 to 1934-35)

who obtain advances from Government, free of interest, to meet the cost of production, on the undertaking that the whole of opium therefrom is to be sold to Government at a fixed rate. In Native States there is no such granting of licences. The above table prepared from the Agricultural Statistics of India gives an idea of the area under poppy in the U.P. and the Native States during the last several years. The table gives a very clear idea of the gradual fall of the area under poppy. In the year 1908, an agreement was entered into between the Government of India

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and the Chinese Government by which the total exports of opium from India were to be reduced annually by 5,100 chests from an assumed standard of 67,000 chests, and by a further agreement of 1911 the reduction was accelerated by further limitations, and exports to China have been discontinued altogether since 1913. This accounts for the gradual fall of area under poppy during the last 27 years. The area under poppy in the year 1908 was about 700,000 acres. At present it is only 28,000 acres.

The average yield per acre of poppy seed in the U.P. is about four cwts. On this assumption the total annual average yield of poppy seed in India can be put at about 6,000 tons.

Trade Varieties.—Three varieties of the seed are recognised, *white*, *blue* and *red*, but the last two are very difficult to obtain. Trade is usually carried on in the *white* variety.

Poppy Oil and Cake.—The Indian poppy seed contains, on an average, from 45% to 50% of oil, which is pale-yellow in colour. It is used for the preparation of finer qualities of paints for the artists. It is also used for the adulteration of high-grade olive oil. The lower-grade poppy oil is used for soap manufacture.

The cake left after the oil has been pressed out from the seeds is sweet and nutritious, and is used as food for the cattle.

9. MOWRA SEED

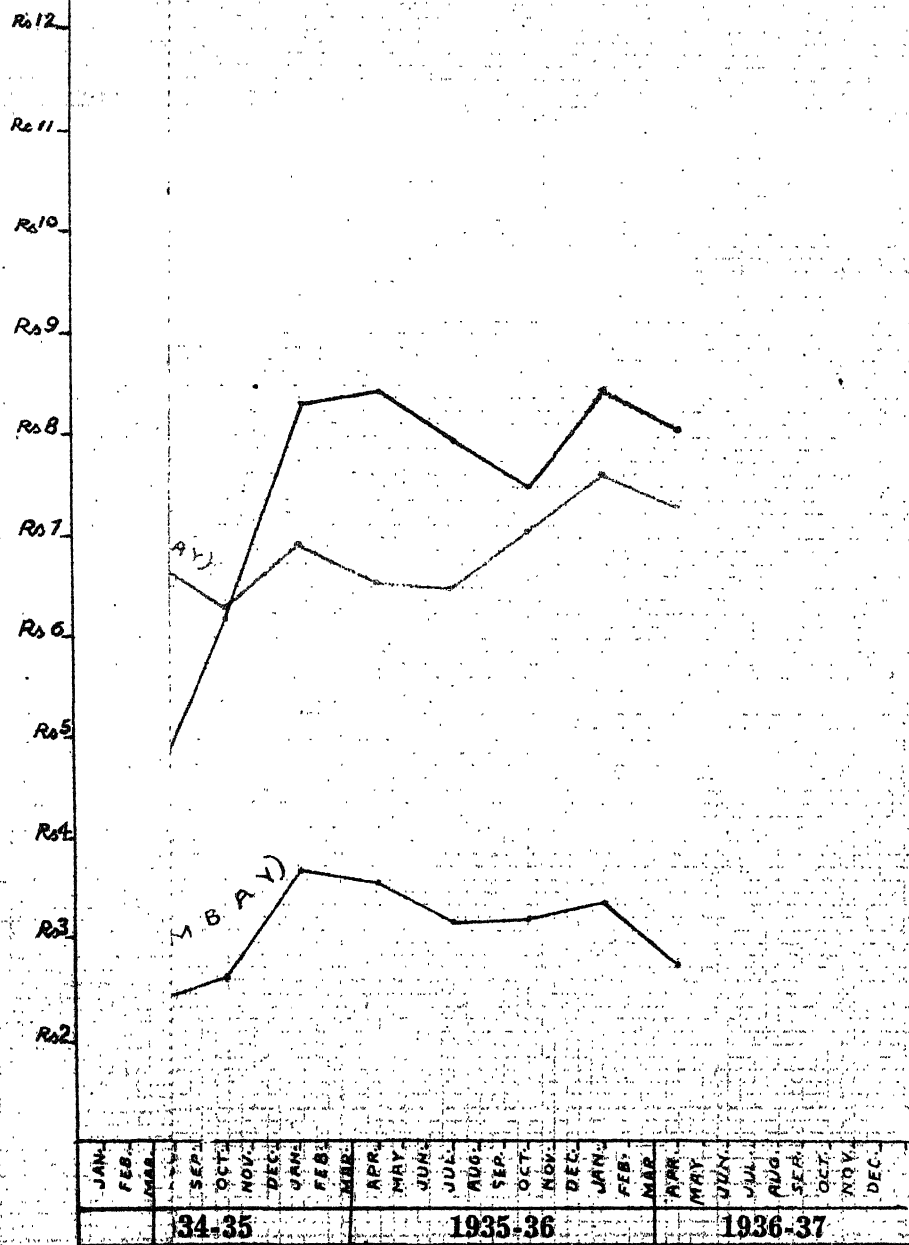
General.—Mowra seed is obtained from the fruit of the mowra tree botanically known as *Bassia Latifolia*. The tree which is found abundantly in the dry and stony regions of Bengal, and in fact, over the greater part of Central India, is highly appreciated by the poor people for its edible flowers and valuable timber. Each tree yields about 5 to 8 maunds of fresh flowers, which give about 1 maund of dry food. The dry flowers are an excellent fattening food for the cattle. They keep very long and seem to resist the attack of the weevils.

Cultivation, Area and Yield.—The tree begins to shed its flowers in the month of March and the fruit is ready by the month of May. The season for collecting mowra seed is very short, viz., from the middle of May till the break of the monsoon, and unless previous arrangements are made for the collection of fruit, a large portion of the crop is spoilt and is lost to commerce. No accurate figures are available regarding the area under the trees and the total yield of seeds, but looking to the figures of export, one can say, that the quantity of seeds available in India must be considerable. The crop usually comes into the market in the month of June.

Trade Varieties.—Two grades of mowra seed are recognised. One is known as *first* quality and the other as *second* quality. The former consists of brown-yellowish seeds with a small percentage of damaged seeds, while the latter of dark brown with anything up to 20% of damaged seeds.

Mowra Oil and Cake.—The oil is extracted from the seeds which form the kernels of the fruit. The kernels are taken out from the smooth chest-nut coloured pericarp by being bruised, rubbed and subjected to a moderate pressure. They are then

LE PRICES (per cwt.) IN INDIA
 OF
 (Bombay), GROUNDNUT (Bombay)
 OTTON SEED (Bombay)



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ground and the oil obtained by expression. In the Central Provinces the kernels are pounded and boiled and then wrapped in two or three folds of cloth and the oil expressed thereafter. The seeds yield about 33% to 43% of oil. Mowra oil belongs to those oils which solidify at ordinary temperature, and is, therefore, used as a solid fat. The oil is also used in India for lighting purposes. It has an equal value with coconut oil for soap making. The cake left after the extraction of oil is bitter, and therefore, possesses no food value and cannot be recommended for the production of feeding cakes. However, it can be used as manure.

10. NIGER SEED

General.—Niger seed of commerce is obtained from a plant which is botanically known as *Guizota Abyssinica*. This plant is originally a native of tropical Africa, but it has been acclimatised in India, and is now the chief source of European supplies. Figures appearing on an earlier page of this chapter show that India holds practically a monopoly in the world's trade in this seed.

Cultivation and Yield.—Niger plant is a spring crop and is largely sown mixed in the month of August and the crop is harvested in the month of November or December. Its soil requirements are simple as the plant requires rocky laterite soil or light sandy soil. As the crop is sown mixed with pulse crops like *kulthi*, etc., no exact idea of the area under cultivation can be had. The chief areas where the crop is produced are Chota Nagpur, the C.P., the Deccan and the North Eastern Madras. The normal yield of niger seed may be taken at about 300 lbs. per acre.

Niger Seed Oil and Cake.—Niger seed is largely crushed in India for the oil which is pale-yellow with a little odour and sweet taste. The yield of oil is about 35% of the weight of the seed. The oil, because of its cheapness, is mixed with mustard oil and rapeseed oil. The superior quality of oil is used for edible purposes, while the inferior quality is used for soap-making, lubricating and lighting purposes. Niger seed cake is highly appreciated for milch cows in the Deccan. "Mr. Mollison speaks highly of the oilcake as a manure for the sugar cane crop."*

11. KARDI SEED

General.—Another oil-seed of India to which reference may be made here is the Kardi seed, which is obtained from the safflower plant, botanically known as *Carthamus Tinctorious*. In certain parts of India it grows wild, while in other parts it is cultivated. There was a time when this crop was considered as, perhaps, the most important oil-seed grown in the Bombay Presidency, but the area under this crop has shrunk considerably in recent years owing to the competition of better-valued oil-seeds, and owing to the competition of the chemical substitutes for the dye which used to be obtained from the flowers of this plant.

*N. G. MUKERJI, *Handbook of Indian Agriculture*, p. 215.

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Cultivation and Area.—Safflower is a *rabi crop* and is sown along with wheat, barley, gram, etc. As safflower is being chiefly grown as subsidiary to some other crop, no statistics regarding the area or production of the seed are available. However, the crop is cultivated on a large scale in the C.P. and the Southern Mahratta Country, where it is crushed along with groundnuts. It is also sown in the Madras Presidency.

Kardi Seed Oil & Cake.—Kardi seed yields between 25% to 30% of oil, which is a very useful product. It is due to Dr. Watt, that a most valuable property of safflower oil has been brought to light. Boiled slowly for four hours the oil becomes one of the best water proofing materials known. It can be mixed with black oxides of manganese, or white lead, or yellow ochre, and the boiled oil so dyed applied with a brush on canvas or drill, or any other cloth to convert it into paulin or waterproof cloth. The boiled oil poured into cold water becomes a rubber-like substance, which can be used as a cement for sealing glass or fixing ornamental stones or tiles on walls. For this purpose it is a much better substance to use than plaster of Paris. The oilcake is considered a very good manure for sugar cane.

After having studied in detail the important oil-seeds grown in India, we come to an important stage in the writing of this thesis, *viz.*, of taking stock of the oilseed production in India. This we do by giving below two tables, the one giving the area under each oil-seed in India and the total area under oil-seeds; and the other, showing the yield under each oil-seed for the last 25 years and the total all-India yield for the same period. The 2nd table, though not giving very exact figures on account of reasons shown below it, is, however, quite reliable as it has been prepared mostly from reliable Government publications. Both the tables give a clear insight into the oil-seed crop of India, and show, without the least doubt, that the total area as well as the yield have been gradually, but surely, on the increase. This can be said to be a sure index of the increasing importance of the Indian oil-seeds both in this country as well as abroad.

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Table showing Area under Oil-seeds in (000) Acres.*

Year.	Linseed.	Rape and Mustard seeds.	Ground-nut. †	Sesame seed.	Coconut. @	Poppy seed (a)	Castor seed (b)	Other Oil-seeds.	Total area.
1911-12	4,199	4,446		4,767		271		5,069	18,481
1912-13	3,558	3,877	396	4,950		251		4,206	16,987
1913-14	2,550	4,307	465	5,013		192		4,017	16,352
1914-15	2,755	4,680	2,379	5,297		203		2,279	17,390
1915-16	2,767	4,412	1,639	4,822		196		2,365	16,005
1916-17	2,911	4,324	2,817	4,849		251		2,222	16,623
1917-18	3,404	4,758	1,982	3,912		256		2,042	16,145
1918-19	1,619	3,179	1,464	3,754		228		1,652	11,668
1919-20	2,708	3,991	1,705	4,685		223		3,290	16,383
1920-21	1,907	3,136	2,823	4,954	1,201	172	1,350	1,620	16,559
1921-22	2,471	4,573	2,367	5,226	1,235	171	1,798	1,525	19,195
1922-23	2,860	4,365	2,774	4,652	1,242	209	1,639	1,498	19,030
1923-24	3,299	4,026	2,958	4,689	1,291	187	1,614	1,512	19,339
1924-25	3,270	4,390	3,181	5,038	1,257	165	1,641	1,688	20,465
1925-26	3,189	3,412	4,259	4,308	1,305	110	1,714	1,709	20,396
1926-27	2,844	3,560	4,442	4,396	1,350	90	1,449	1,712	19,753
1927-28	2,877	3,690	5,536	4,945	1,327	82	1,485	1,803	21,664
1928-29	2,793	4,862	6,436	5,193	1,381	70	1,360	2,064	24,089
1929-30	2,710	3,823	6,177	4,876	1,377	65	1,217	1,865	22,045
1930-31	2,605	3,696	6,412	5,228	1,395	71	1,474	1,835	22,645
1931-32	2,916	3,877	5,351	5,083	1,381	69	1,588	1,962	22,160
1932-33	2,764	3,902	6,978	5,957	1,434	55	1,622	2,168	24,826
1933-34	2,720	3,679	7,716	5,806	1,494	37	1,548	2,020	24,983
1934-35	2,835	3,064	5,283	4,654	1,465	28	1,441	1,827	20,629
1935-36†	3,457	5,333	5,857	5,664	1,465	28	1,455	1,827	25,199
1936-37	3,595	5,771	7,211	5,543	1,465	28	1,377	1,827	27,008

Source :—Agricultural Statistics of India, Vols. I & II.

* The table does not include the area under cotton seed as the seed is a by-product and not the main crop.

† Figures prior to 1912-13 are included under "Other Oil-seeds."

‡ Figures for 1935-36 are collected from Estimates of Area and Yield of Principal Crops in India, whereas figures for 1936-37 are collected from the estimates of area appearing in the Indian Trade Journal. Figures for area under poppy and other oil-seeds for 1934-35 are retained for the following years.

@ Figures for earlier years are included under "Fruits & Vegetables" in Agricultural Statistics of India, Vols. I & II.

(a) The area under poppy seed though shown in the table is not included in the total area.

(b) Figures for earlier years are included in "Other Oil-seeds."

THE OILSEED TRADE OF INDIA

Table showing the Yield of Principal Oilseed Crops in (000) tons.

Year	Cotton seed	Linseed	Rape and Mustard seeds	Groundnut*	Sesame seed	Copra †	Poppy seed ‡	Castor seed (x)	Other Oil-seeds (y)	Total estimated yield
1911-12	1,423	644	1,330	605	392		54		38	4,486
1912-13	1,601	542	1,242	670	474		50		38	4,617
1913-14	2,112	386	1,088	748	403		38		39	4,819
1914-15	1,746	397	1,219	947	551		41		234	5,135
1915-16	1,825	476	1,092	1,058	482		40		108	5,081
1916-17	1,780	526	1,193	1,196	513		50		138	5,396
1917-18	1,607	515	1,155	1,056	382		51		5	4,771
1918-19	1,125	235	768	626	278		46		5	3,383
1919-20	1,908	419	1,153	822	449		45		3	4,799
1920-21	1,765	270	859	1,022	382	1,201	34	84	5	5,622
1921-22	2,133	436	1,167	959	518	1,235	34	142	1	6,625
1922-23	2,239	533	1,209	1,119	482	1,242	42	117	47	7,030
1923-24	2,124	463	1,149	1,054	441	1,291	38	103	20	6,683
1924-25	2,472	501	1,220	1,355	513	1,257	33	124	11	7,486
1925-26	2,324	402	909	1,776	421	1,305	22	144	9	7,312
1926-27	2,009	406	1,004	1,818	414	1,350	18	129	17	7,165
1927-28	2,022	348	840	2,413	543	1,327	16	138	12	7,659
1928-29	2,384	322	910	2,775	495	1,381	14	113	14	8,408
1929-30	2,497	380	1,095	2,370	455	1,377	13	116	7	8,310
1930-31	2,410	377	988	2,767	526	1,395	14	120	5	8,602
1931-32	1,670	416	1,025	2,276	476	1,381	14	146	5	7,409
1932-33	2,090	406	1,042	3,007	551	1,435	11	151	5	8,647
1933-34	1,810	379	957	3,318	537	1,494	8	144	5	8,652
1934-35	1,717	418	895	1,869	406	1,465	6	105	5	6,886
1935-36	2,002	388	957	2,258	463	1,465	6	121	3	7,603
1936-37	2,128	418	970	2,803	482	1,465	6	126	4	8,402

Source:—1. Statistical Abstract for British India and Certain Indian States.

2. Estimates of Area and Yield of Principal Crops in India. Figures for 1936-37 are from the estimates of crops appearing in the Indian Trade Journal. Figures for copra as in 1934-35 have been retained as no later figures are available.

* Figures are for nuts in shells.

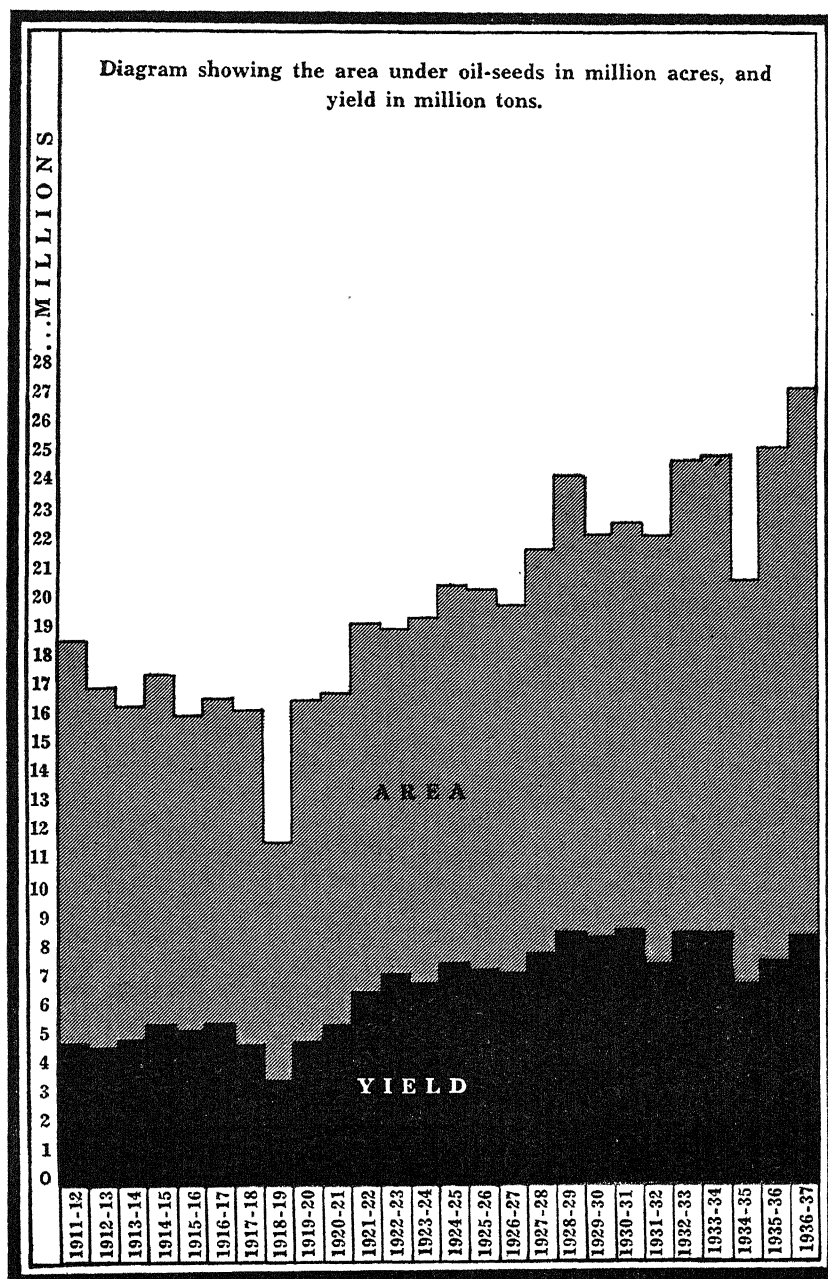
† Figures prior to 1920-21 were included under "Fruits and Vegetables" in Agricultural Statistics, Vols. I & II. The figures put in this column are rather approximate and have been calculated on the basis of one acre of land under coconut yielding approximately one ton of copra.

‡ Figures of annual yield of poppy seed do not appear separately in the Statistical Abstracts relating to British India. They have been calculated on the basis of average yield of poppy seed.

(x) Figures prior to 1920-21 were included in "Other Oil-seeds."

(y) Reliable crop statistics being not available export figures have been entered in this column.

OIL-SEEDS IN INDIA



CHAPTER III

MARKETING OF OIL-SEEDS

Primary Markets : Their Organisation

In the preceding chapter we have detailed those parts of India which grow oil-seeds in large quantities. We have seen that the Punjab has a very large area under rapeseed, the United Provinces and Central India a large area under linseed and sesame seed; and the Bombay Presidency, Madras and Hyderabad have large areas under groundnuts, castor seed and cotton seed and so on.

Crops, when harvested in different parts, are brought for sale to the nearest market places which are called Primary Markets. They are the first markets at which oil-seeds are dealt with soon after they leave the fields. There is a large number of such primary markets in India. The map at the end of this book shows the chief primary markets in different parts of India.

Hinterland of Bombay and its Extent.—The accompanying map of the hinterland of Bombay gives an idea of the distant parts from which Bombay receives her supplies of oil-seeds. In the north and north-east, in addition to including a large part of the Bombay Presidency, the hinterland of Bombay extends as far as Cawnpore and Allahabad, and also encroaches upon certain Rajputana States, like Kotah, Bundi, Indore, Ujjain, etc. In the east, it trespasses upon the boundary of the Central Provinces and stretches as far as Nagpur and Nainpur. In the south, it extends as far as Raichur in Hyderabad, thus bringing a good bit of the Hyderabad State also within its fold.

Heterogeneous mixture as it is politically, it is difficult to give an exact idea of its extent. It would not be even possible to give an exact idea of the area of the hinterland of Bombay, as the hinterlands of Bombay, Karachi, Calcutta and Madras overlap one another at several points. It may also be mentioned that Bombay receives certain oil-seeds like rapeseed from as distant a place as Delhi, and as such, as far as a strict scientific definition of the hinterland of Bombay for oil-seeds goes, it would be right to include even Delhi in the hinterland, but it would be exaggerating its extent, as, in the first place, the supplies of rapeseed from Delhi are very small, and, in the second place, the area between Delhi and the hinterland of Bombay does not consign oil-seeds to Bombay, but to Karachi or Calcutta.

Seed Areas.—The hinterland of Bombay can be divided into several seed areas, each specialising in one or more varieties of oil-seeds. For instance, in the north there is a seed area which chiefly produces rapeseed and castor seed. To the east of it there is another seed area which mainly produces linseed, poppy seed, sesame seed, and mowra seed. The third seed area lying

PRIMARY MARKETS

in the east of the Bombay Presidency is a cotton-growing area, and, as such, specialises in supplying the cotton seed requirements of Bombay. Groundnut production is the speciality of the fourth seed area, which covers the major portion of the south of the Bombay Presidency and a portion of the Hyderabad State. This area also produces castor seed and cotton seed. In the following pages we propose to make a detailed study of the principal Primary Oilseed Markets in these Seed Areas.

SEED AREA NO. I

This Area lies to the north of Bombay and covers the districts of Ahmedabad and Kaira and the Native States of Mehsana, Patan, Baroda, etc., and specialises in the production of yellow rapeseed, castor seed and sesame seed. Although it may be rightly said, that every town of any significance in this Area is a market for seeds, yet there are some important markets like Mehsana, Harij, Patan, Sidhpur, Deesa and Chanasma, some of which require special mention at our hands.

Mehsana.—It is a town situated on the B. B. & C. I. Railway metre-gauge route from Ahmedabad to Delhi and is also the terminus of the Rajputana Malwa and Gaekwad Mehsana Railways. The town is an important seed market of the Mehsana State.

Harij.—Harij is situated on the Gaekwad Mehsana Railway, and has a population of about 3,000 only. It seems to have grown into importance only because of its situation in the seed producing area. The produce of the adjoining districts is brought to this town for sale.

Patan.—Patan is an important town of the Patan State. The town was at one time a great business centre, but since the growth of Bombay, has gradually dwindled in importance, as most of the business houses at that place have migrated to Bombay. The seed market in this town is *kutch*a and open to dust and rain.

Sidhpur.—Sidhpur is situated at a distance of about 30 miles from Mehsana on the B. B. & C. I. Railway metre-gauge route to Delhi and is a place of pilgrimage for the Hindus. A part of the bazaar called "Ganeshgunj" is reserved for trade in grain and seeds.

Arrivals of Seeds.—With the exception of Mehsana, which is a closed market, every other town in this Area is an open market for seeds. The seeds are brought from distant as well as adjoining villages by the villagers, who have grown them; or by the village *sowkars* who have got them from the villagers in liquidation of their debts. Seeds are generally brought on pack animals like asses, horses, and camels or in carts and are deposited in the markets for sale.

Methods of Sale.—Selling by auction seems to be the rule in this Area, although different methods of sale are practised at Mehsana and Harij. At Mehsana it is only the samples of seeds that are brought into the market and bargains are settled on their basis. This, no doubt, saves a lot of labour and trouble on

the part of the seller, as even though the farmer or the village *sowkar* is not able to find a reasonable price for his wares he can go back to his house with the satisfaction that he has not sold his wares because he has not been able to fetch a reasonable price for them. He can come again to the market some other day with samples of his goods. On several occasions even samples are not brought; and purchases are effected on the basis of the district in which the seeds are grown, as the merchants know the average quality of seeds produced in that district. Sometimes merchants themselves go to the villages and make purchases.

At Harij the method of sales followed is different. The villager brings the seeds to the market town, deposits them in one corner of the market place, called *adda*, takes out a sample and goes from merchant to merchant inviting offers for his goods. This practice often works against the interests of the seller, as more often than not, the purchasers combine and refuse to offer high, in which case the villager cannot but sell his wares at the price offered by the merchants. No doubt, in theory, the seller can go to all dealers and invite offers for his seeds; but in practise, he has already visited one or two shops, when he is persuaded to part with the goods at the price offered. His illiteracy and ignorance make him impatient, and he soon decides to sell his goods to the next merchant he comes across.

Again, although sales by auction is the rule and goods once bid must be given off to the highest bidder, their seems to be a slight variation in this practice in certain markets. For instance, there is a provision in the Sidhpur market, that in case a villager finds that on account of the bearish tendency of the market his seeds are not fetching the just price, he can, just before the close of the bid, himself bid high for the goods. Such unsold goods can be warehoused in the market to be sold when prices take a favourable turn.

Agencies for Effecting Sales.—Seeds brought by the villager or village *sowkar* are sold through middlemen, who are known as *adatyas*. Each villager has a connection with an *adaty*, and it is to him that he takes his produce for sale. With the exception of Harij, where the villagers try to deal direct with the local merchants, the help of the "middlemen" to effect sales seems to be indispensable in this Area. Even at Mehsana, which we have described as a closed market, the help of the middlemen is sought for by the villagers.

Raj or Dirt-Allowance.—Except at Mehsana, where the sales go on for the whole day because of the peculiar nature of the market, the markets in this Area generally open in the morning at about 9 a.m., when the auctions begin, and close at about 2 p.m. Before the actual bidding for a heap begins, the merchants (buyers) gather round the heap of seeds and determine, in consultation with the *adatyas*, what dirt-allowance a particular heap of seeds should bear. The determination of *raj* or dirt-allowance seems to be an essential step in the sale of the

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villager's produce. The determination of "dirt" is known as the determination of *raj*, and it is allowed in the shape of an additional weight to the purchaser. For instance, if it is decided that a particular lot of rapeseed contains two seers of dirt per maund, then the maund for that lot would be that of 42 seers instead of 40 seers.

At Harij, the question of dirt is approached and settled on a slightly different basis. The seeds are sold either on *kutch*a basis or *pucca* basis. *Kutch*a means that dirt allowance of 2 seers of 40 tolas each, i.e., 2 lbs. in the case of rapeseed, and 1½ lb. in the case of castor seed is made to the purchaser. The fixing of an allowance of 2 seers per maund in the case of rapeseed and one and a half seer in the case of castor seed may seem a bit arbitrary at first sight, but it is not so in reality. Rapeseed, as it comes to those markets, does usually contain an admixture of about 2 lbs. of sand, dirt, etc. per maund. Similarly, castor seed usually contains an admixture of about one and a half pound per maund. Seeds sold on *pucca* basis have to bear a lower dirt-allowance, which is half a seer per maund, because the seeds are cleaned before they are weighed. No doubt the latter method of sales is better than the former one. However, the most of the sales are made on the *kutch*a basis as it involves less loss of time.

Local Weights.—The usual measure of weight in this Area is the maund of 40 seers of 1 lb. each, that is, roughly about half the railway maund. Bids are made so many rupees per maund.

Adatya & His Remuneration.—The *adatya* because of his services to the villager in disposing of his seeds receives a commission or *adat* which varies from as. 8/- to Re. 1/- per cent. The *adatya* or commission agent, in theory, is a person who keeps a shop in the market and sells or purchases seeds on behalf of his clients, but, in practice, he combines in him many more functions. He is also a merchant and purchases seeds on his own account to re-sell them later on. At Harij, there is quite a large number of such *merchant-adatyas* who every year purchase seeds on their own account. In addition to being a merchant, an *adatya* is a banker and lends money at interest, and also undertakes to discount *hundis*.

Purchasers and Methods of Purchase.—Purchasers of seeds in these markets are foreign export houses, viz., Messrs. Volkart Bros., Messrs. Ralli Bros., Messrs. Louis Dreyfus & Co., and Indian export houses like Messrs. Sawantilal Nagindas & Co., Messrs. Kilachand Devchand & Co., Messrs. Birla Bros., representatives of Bombay merchants, local merchants, and Ahmedabad mill agents. Exporters usually maintain offices at important market towns and make their purchases through them. At places where it is not considered profitable to maintain an office, purchasing agents are appointed and the purchases of seeds are made through them. At the time of our visit to Patan we found that Messrs. Kantilal Tricumdas & Co. were working

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as the purchasing agents of Messrs. Volkart Bros.,* whereas Messrs. Hiralal Vithaldas & Co. were working in the same capacity at Mehsana. These purchasing agents bear no other relation to the export houses than this that the export houses make their purchases of seeds at those markets through them. No commission is allowed to any of the above agents. They consider it, and rightly too, a privilege to be appointed as the purchasing agents of firms like Messrs. Volkart Bros. The profits of the purchasing agent consist mainly in the differences between the limits passed on to them by the export houses and the rates at which they are able to purchase in the market. The purchasing agents have to sell to their principals on Bombay Port Trust Godown basis and under the rules and regulations of the Bombay Oilseed Market. The purchasing agents are at a bit disadvantage, as the Bombay Oilseed Market is very exacting as far as the question of refraction and quality is concerned. During the course of our investigation we were told, that these agents did not much like the idea of selling goods on Bombay terms.

Many merchants of Bombay neither maintain offices nor do they appoint purchasing agents, but send their own men in the beginning of the season and make their purchases through them.

Purchases of Calcutta Firms.—Markets in this Area are also visited by the representatives of several seed-trading firms of Calcutta who also bid at auction sales. We were told, that these representatives of the Calcutta firms were often able to carry the day against the purchasing agents of the Bombay export houses. At the time of our visit to Patan we found that, on 10th March, 1928, when telegrams from Calcutta showed that rate for "yellow Gujerat rapeseed" in the Calcutta Seed Market was Rs. 8-8 per Bengal maund, the representatives and the purchasing agents of the Calcutta firms were bidding up to Rs. 7 or more per maund. This may appear as an anomaly, as it did to us, especially in view of the fact that the railway freight on rapeseed from Patan to Calcutta is approximately Rs. 1-8 per railway maund plus other additional expenses of about as. 10 per maund. We were told that this disparity was possible as the Calcutta market was not very particular about refraction; and the purchasers could make up the difference in rates by adding some sand or dust. This practice has nothing to commend itself to a genuine and honest business man. One would only like the Calcutta market to tighten its screws and frame more stringent rules regarding refraction, thus preventing the unscrupulous merchants from resorting to such objectionable practices.

Expenses of the Seller.—The village cultivator as well as the purchasers of seeds have to bear certain expenses. These expenses vary slightly in amount from market to market, though the principle underlying these expenses is the same. For

* This firm has now closed its seeds business.

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instance, a villager who brings his wares to the market is to bear *adat* or selling commission. He has also to bear a portion of the weighing charges. The practice of charging weighing expenses from the villager is different at different markets. At Mehsana, the weighing charges are borne only by the purchaser of seeds and not by the seller, as it is the duty of the purchaser to get the goods weighed. At Sidhpur, the weighing expenses are shared half and half by both the parties; whereas at Patan the weighing charges are included in *adatyā's* commission.

Expenses Borne by the Purchasers.—The expenses of the purchasers are on a more uniform basis than the expenses of the sellers. In each market merchants maintain a *pro-forma* invoice of expenses calculated on 100 bags of seeds.

Given below are *pro-forma* invoices of expenses on castor seed and rapeseed purchased in the market of Patan:

Pro-forma invoice of 100 bags of 2½ Bengal maunds each of rapeseed, 'yellow Gujarat,' bought at Patan and despatched to Bombay Grain Depot on F. O. R. Bombay Basis.

Local weight :— $\begin{cases} 40 \text{ tolas} = 1 \text{ seer} \\ 40 \text{ seers} = 1 \text{ maund} \end{cases} = .3674 \text{ cwts.}$
 100 bags = 450 maunds = 165.33 cwts.

		At Rs. 3/- per maund.			At Rs. 4/- per maund.		
		Rs.	a.	p.	Rs.	a.	p.
Cost of 100 bags = 450 maunds	...	1,350	0	0	1,800	0	0
Expenses :—							
Commission ½%	...	6	12	0	9	0	0
Brokerage as. 8 per 100 maunds	...	2	4	0	2	4	0
Cost of twine	...	0	8	0	0	8	0
Cartage to the station as. 2 per bag	...	12	8	0	12	8	0
Labour charges including cleaning and filling up in bags at Rs. 6/4/- per 100 bags.	...	6	4	0	6	4	0
<i>Pantrapole</i> at Rs. 2/- per 100 bags	...	2	0	0	2	0	0
Price of 100 gunny bags	...	50	0	0	50	0	0
Exchange at Rs. 2/- per cent.	...	1	12	0	2	4	0
<i>Marfat</i> at Rs. 4/- per 100 bags	...	4	0	0	4	0	0
Railway freight to Bombay at as. 11-2 per maund on 227½ railway maunds (this includes the weight of gunny bags)	...	158	12	6	158	12	6
Cost of 165.33 cwt. of rapeseed	...	1,594	12	6	2,047	8	6
Cost of 1 cwt. of rapeseed.	...	9	10	4	12	6	0
Therefore difference of Re. 1/- per maund	=	2	11	8	per cwt.		
„ as. 8/-	=	1	5	10	„		
„ as. 4/-	=	0	10	11	„		
„ as. 2/-	=	0	5	5½	„		
„ as. 1/-	=	0	2	8¾	„		

N.B.—This *pro-forma* invoice was collected by the writer on the occasion of his personal visit to Patan. Certain items, like the cost of gunny bags, have undergone slight changes by this time ; however, the general *pro-forma* stands good.

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*Pro-forma invoice of 100 bags of 4 maunds each of castor seed
bought at Patan and despatched to Bombay Grain
Depot on F. O. R. Bombay basis.*

Local weight: —		{ 40 tolas = 1 seer. 40 seers = 1 maund.	
100 bags = 147 cwts.			

Particulars of cost	Rs. 3/- per mnd.	Rs. 4/8/- per mnd.
	Rs. a. p.	Rs. a. p.
Cost and expenses :—		
Cost of 100 bags of castor seed weighing 400 maunds ...	1,400 0 0	1,800 0 0
Less $9\frac{3}{4}$ maunds of dirt allowance ...	34 2 0	43 14 0
	1,365 14 0	1,756 2 0
Expenses :—		
Commission as. 8/- per cent. ...	6 13 8	8 12 6
Brokerage at as. 8/- per 100 mnds. ...	2 0 0	2 0 0
Labour charges for cleaning and packing for 100 bags ...	6 0 0	6 0 0
Cartage for 100 bags ...	7 13 0	7 13 0
Twine for 100 bags ...	0 8 0	0 8 0
Marfat for 100 bags ...	4 0 0	4 0 0
Panjarapole at 2 pice per bag for 100 bags ...	3 2 0	3 2 0
Exchange as. 2 per cent. ...	1 12 0	2 4 0
Cost of gunny bags (new) ...	50 0 0	50 0 0
Railway freight on $220\frac{1}{2}$ railway maunds at as. 11-2 per maund (this includes the weight of the bags) ...	153 14 3	153 14 3
Total cost of 147 cwts. of castor seed.	Rs. 1,601 12 11	1,994 7 9
Cost of 1 cwt. of castor seed	„ 10 14 4	13 9 1

Therefore difference of Rs.	1 0 0	per md.	= Rs.	2 10 9	per cwt.
„	0 8 0	„	=	1 5 $4\frac{1}{2}$	„
„	0 4 0	„	=	0 10 $2\frac{1}{4}$	„
„	0 2 0	„	=	0 5 $1\frac{1}{8}$	„
„	0 1 0	„	=	0 2 $6\frac{9}{16}$	per cwt.

The above *pro-forma* was collected by the writer on his visit to Patan from the agent of Messrs. Kilachand Devchand & Co. Here too, certain items of expenses have undergone changes on account of trade depression, but the general *pro-forma* stands good.

Explanation of the *pro-forma* Invoice.—The above two *pro-formas* disclose certain facts about transactions in rapeseed and castor seed in the above markets. In the first place, castor seed is not sold on the same basis as rapeseed. The purchasers of castor seed are given a trade allowance of about 1 seer per maund, while no such allowance is given to the purchasers of rapeseed.

Among the items of expenses certain items require explanation. 'Commission' is the remuneration of the purchasing agent for making purchases. 'Brokerage' is the remuneration of the broker who brings about the transaction between the purchaser and the seller. *Marfat* is the remuneration of the *marfatia* or the forwarding agent, who looks to the despatch of goods.

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Panjarapole is an item of charity. 'Exchange' denotes either the expenses of remitting money from Bombay to the market or the discount on the *hundis*. *Pro-forma* invoice of Sidhpur market, which is not attached, discloses an item of 'Station' which means tips to the station-master for offering facilities in the despatch of seeds. According to the strict principles of business the amount has to be added to the expenses on the goods, and therefore, its appearance in the *pro-forma* invoice is quite justifiable.

Ready and Forward Transactions.—Local merchants in the primary markets in this Area enter into ready as well as forward transactions in seeds. Ready transactions in seeds are governed by the same rules as the transactions between the village-seller and the merchant-purchaser, with this difference that, there is no settling of *raj* as the goods are expected to be clean. The forward transactions are governed by different rules. The Patan market seems to be specialising in future transactions. Future transactions, or *waidas* as they are termed, are generally done in the evening when a special session is held at the premises of the Patan Seed Merchants' Association. The chief reason for holding such a market in the evening is the facility in the means of communication which exists between Bombay and Patan. The Bombay *waida* Bazar closes at 5 p.m. and telegrams as to the rates which prevailed during the day as well as the tone of the Bombay market are received by the merchants at Patan by the evening. Hence, there is felt the necessity of holding such a bazaar at that time. *Waida*-dealers, after finishing their evening meals, drop in, one by one, at the premises of the Seed Merchants' Association and speculate as much as their means permit. Any abnormal feature in the Bombay *Waida* Market is at once reflected in the seed market at Patan. There is (1) *Chaitra 15th waida* for 85/15 yellow rapeseed and (2) *Vaisakh 15th and Asuj waidas*, for castor seed.

At the Sidhpur market future business is done on lines different from those on which it is done at the Patan market. The local Association of Merchants has no provision for carrying on *waida* transactions, but there are brokers who are ever ready to register forward purchases or sales on the deposit of a nominal margin.

Commercial Organisations of Merchants.—Business in most of the primary markets in this Area is regulated by voluntary associations of seed merchants. With the exception of the Meh-sana market, where seed business is regulated by customs and where disputes arising between merchants are settled by a body of merchants selected on the spot, business in other markets in this Area is regulated by organisations of merchants. There is the "Seed and Grain Merchants' Association" at Patan and the "Merchants' Association" at Harij. The bye-laws of these associations are not printed, and, as such, are not available to an outsider. They are mostly recorded in the books of account of the Secretary. We could not get insight into the bye-laws of these associations

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except the bye-laws of the "Patan Seed and Grain Merchants' Association" which were in a printed form. These associations devote their attention chiefly to the settling of disputes among merchants and regulating the expenses.

Banking Facilities.—The Banks seem to be few and far between in this Seed Area. There is neither a co-operative bank nor a branch of any joint-stock bank at markets like Harij and Sidhpur. The Bank of Baroda, Ltd., has its branch at Mehsana, but we were told that it offered little facilities to traders in seeds.

Godown Facilities.—With the exception of Harij, which is a new market, almost all the other seed markets are equipped with godowns, which are owned by private individuals. These godowns can be rented at a very reasonable rent. The godowns are not constructed on scientific basis as the seeds are not intended for long-warehousing. The rent for a godown which can accommodate about 500 bags of rapeseed is about Rs. 2 per month. At Harij the railway yard is used by the merchants as a godown. The yard is open and affords little or no protection against dust and rain.

Ports of Export.—The seeds produced in this Area, rapeseed and castor seed, find their way to several ports. As already pointed out, rapeseed finds its way also to Calcutta. The seeds bound for Calcutta have to follow a circuitous route through Agra at which station they are transhipped into the E. I. R. wagons. Goods are also sent to Bedi Bandar and Okha ports for export. The former is a port of the Jamnagar State, whereas the latter is a port of the Baroda State. The seeds destined for the former port have to pass through Viramgam, Wadhwan, Rajkot, Jamnagar and then to Bedi Bandar, while seeds meant for Okha proceed further to Okha. Messrs. Ralli Bros. have their office at Bedi Bandar and goods meant to be shipped to the Continent are sent to Bedi Bandar direct. Volkart Bros. have also opened an office at Okha and prefer to despatch goods meant for the Continent from that port. The railway freight from the markets in this Area to Okha and Bedi Bandar is lesser than to Bombay, and also, there is no transhipment of goods, as in the case of goods going to Bombay and Calcutta.

SEED AREA NO. II

Situation and Extent of the Area.—The second Seed Area lies to the east of the first and is comprised of a greater portion of the Central India and the Native States of the Malwa plateau, viz. Indore, Rutlam, Kotah, Bundi and Bhopal, etc. This Area is singularly fortunate in being served by two important railway lines: the Great Indian Peninsula, and the B. B. & C. I.

Varieties of Seeds Grown.—The Area receives sufficient quantity of rainfall; and on account of the loamy nature of the soil is particularly suited to the production of oil-seeds like linseed, poppy seed, and sesame seed. Linseed is of *Bold Brown* variety and contains a higher percentage of oil than the smaller variety.

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About 17 to 18 seeds weigh one grain. Linseed produced in this Area, because of its boldness and higher oil content, is used as an adulterant in inferior qualities. Sesame seed is generally of 95/5 and 85/15 varieties.* Pure black and pure white varieties of sesame seed, although grown in this Area, do not come to the market for sale.

Time for Harvesting.—All the oil-seeds grown in this Area are *rabi* crops, being sown in the beginning of winter and harvested in spring. The usual months for the sowing of linseed and poppy seed are October and November and the time for harvesting is March-April. Sesame seed is grown earlier than October and is ready at the end of January.

Leading Primary Markets.—Important primary seed markets in this Area are Indore, Kotah, Baran, Bina, Guna, Bhopal, Bhilsa, etc., but Kotah and Baran are the representative markets of this Area and, as such, were visited by us in the course of our research.

Kotah.—Kotah is the capital of the State of the same name and is situated at a distance of about 4 miles from the Kotah Railway Station on the B.B. & C.I. Railway broad-gauge route from Bombay to Delhi. It is an old town and has a population of about 10,000.

Baran.—Baran is an important town of the State of Kotah and is situated on the G.I.P. metre-gauge line connecting Kotah with Bina. It is at a distance of about 40 miles from Kotah. It lies in an arid area and is said to have risen into importance as a market for seeds during the last 20 years. The town has a population of about 7,000, many of whom have migrated there because of the seed trade of the town. A part of the bazaar, which is *kutchra*, is reserved for the seed market.

Arrivals of Seeds.—The seeds for both the markets are brought in carts by the cultivators from as far a distance as 20 to 30 miles. Each cart is drawn by a pair of sturdy bullocks and contains 6 to 8 bags of linseed. Each bag weighs about $2\frac{1}{4}$ Bengal maunds. Seeds are generally brought by a cultivator to the *dalal* who is known to him, but he is free to go to any *dalal* he pleases. This sometimes creates a scramble among the *dalals*, each one trying to have a cultivator to his side.

Manoti System.—At Baran, there prevails a system of advancing money to the cultivators, by which the cultivator is not only bound to bring his goods to a particular *dalal*, but is also bound to sell his produce to him at a certain price fixed at the time of making the advance. This system is known as the *Manoti system* and the *dalals* who specialise in it are known as *Manotidars* or *Bhore*. Under this system a *Bhore* advances

* 95/5 means that 95 is the number of white seeds and 5 of black seeds in 100 seeds of sesame seed. Similarly 85/15 means that 85 is the number of white seeds and 15 the number of black seeds in 100 seeds of sesame seed.

money to a cultivator for the purchase of seeds and for meeting the current expenses, and makes him agree to sell the crop, when ready, at a certain price. This system often works against the interests of the cultivator and does not let him have for his goods a just price, determined by the forces of demand and supply. Those who are interested in the system defend it on the ground that it is a mere forward transaction and should be considered valid. While we cannot question the validity of the transaction, we fear, we cannot attach the same amount of sanctity to this type of transaction, as we do to an ordinary forward transaction. It differs from a forward transaction, in that it is not entered into by the independent and free will of both the parties. It is not the free and profit-making will of the farmer, which prompts him to enter into the contract, but it is his economic dependence upon the *Manotidar* that forces him to put his signature to this sort of contract. Again, while an ordinary dealer who enters into a forward transaction can hedge himself by purchasing what he has sold, the farmer has no such intentions. The Co-operative Department of the Kotah State is trying its utmost to fight against this pernicious system by purchasing large quantities of seeds and distributing them among the societies of farmers at the sowing time, but it has not yet been able to drive this system out completely.

Sales and Methods of Sale.—Sales begin soon after the arrival of seeds in the market and last till the seeds are sold out. The bids are for a *mani* of 12 Bengal maunds, that being the local weight at these markets.

Before the sales of goods brought to the market begin, it is settled between the prospective bidders and the *adatyas* or *dalals*, as to what *karta* or dirt-allowance each lot of seeds will bear. The determination of *karta* in this Seed Area is similar to the determination of *raj* in Seed Area No. I, which we have described on the earlier pages of this chapter. *Karta* may range from two seers to four seers per maund. Even if the seeds are clean and no *karta* can be arrived upon, *karta* at the rate of 3 seers per maund has to be borne by the seller.

There is another system of sale in both these markets. This may very well be compared to that prevailing at the market of Mehsana in the first Seed Area. Samples are many a time brought by the villagers to Kotah and the sales are effected on the basis of these samples. As seeds ordinarily contain dirt and non-oleaginous products, business is done on 4% refraction *non-mutual* basis, meaning thereby, that dirt to the extent of 4% is excusable and no penalty is charged to the cultivator. In case there is more than 4% of dirt the cultivator has to pay a penalty of as much more as the excess of dirt over 4%. However, even if the goods are clean and contain less than 4% of dirt and foreign matter, the purchaser is not required to give any credit for it. That is what is meant by 4% *non-mutual* basis of refraction.

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Cost of Marketing to the Cultivator.—A cultivator who brings his goods for sale to the Kotah market has, in case his goods are sold, to bear the following expenses:—

Dalali at one anna per *mani*.

Tolai at one anna per *mani*.

Charadi at half-an-anna per *mani*.

Adat at $2\frac{1}{2}$ annas per *mani*.

Karta at 3 seers per *mani*.

Parchuran kharach at 1 seer per *mani*.

Exchange at the rate of as. 3|- per Rs. 100|.

One is a bit surprised to find both the items of *dalali* and *adat* against the cultivator. One signifies the remuneration of the *adatyas* and the other that of the *dalal*, whereas the *dalal* and *adatyas* may be one and the same person. *Tolai* and *charadi* are shared half and half between the cultivator and the purchaser at Kotah, whereas at Baran *tolai* is paid by the purchasers of seeds.

The cultivator having sold his goods through an *adatyas* has to look to him for payment. It is the duty of the *adatyas* to collect the amount from the purchaser of seeds and pay the same to the cultivator after deducting his charges. It is a practice in these markets that the cultivator must be paid, without fail, by the evening. It seems that on account of the illiteracy of the producers the currency notes of the Government of India are always at a discount in this Seed Area. We were told by Messrs. Kilachand Devchand & Co.'s agent at Baran, that during the seed season they had to receive from Bombay, every now and then, chests containing silver rupees with a view to making disbursements to the cultivators. This means so much waste of money by way of railway freight.

Purchasers and Methods of Purchase.—Seeds are generally purchased by the export houses like Messrs. Ralli Bros., Kilachand Devchand & Co., etc., Bombay merchants and the local merchants. The export houses maintain their offices at most of the seed centres in this Area, while Bombay merchants either send their own men for purchases in the season or purchase their requirements through *adatyas*. The State is also a buyer of linseed for its oil factory at Kotah. At Baran the Co-operative Department buys large quantities of almost all varieties of oil-seeds and stocks them for distribution among co-operative societies at the time of the next sowing.

The agents of the export houses as well as the purchasing agents of the Bombay merchants maintain a *pro-forma* invoice detailing all expenses to be incurred on seeds. *Pro-forma* invoices are very useful documents as they not only give, at a glance, an almost exact idea of the expenses to be incurred on seeds, but also serve as ready-reckoners for arriving at prices at which seeds should be purchased in the up-country markets.

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Given below is a *pro-forma* invoice of linseed kept by the Baran agent of Messrs. Kilachand Devchand & Co., Ltd., of Bombay:—

Pro-forma Invoice of 100 bags of Brown Bold Linseed weighing 185 lbs. each bought at Baran and despatched to Bombay on F.O.R. Bombay basis.

Local weights :—

80 tolas = 1 seer 1 maund = .7347 cwts.
40 seers = 1 maund 1 *mani* = 8.5141 cwts.
100 bags = 225 maunds or 18.75 *manies*.

Particulars of cost	At Rs. 30/- per <i>mani</i> .	At Rs. 31/- per <i>mani</i> .
	Rs. a.p.	Rs. a. p.
Cost of 100 bags of 185 lbs. each, <i>i. e.</i> net weight 225 maunds or 18.75 <i>manies</i> or 165.1786 Cwts. ...	562 8 0	581 4 0
Less allowance in weight at 4 chhataks per 5 seers (<i>i. e.</i> 5%) on 225 maunds. Total allowance 11½ maunds ...	28 2 0	29 1 0
Total	534 6 0	552 3 0
Charges.		
Brokerage on 18.75 <i>manies</i> at Rs. 0 1 0 per <i>mani</i> ...	1 2 9	1 2 9
Weighing charges on 18.75 <i>manies</i> at as. 1/- per <i>mani</i> .	1 2 9	1 2 9
Local <i>hamali</i> or labour required for cleaning, refilling, weighing, sewing, and loading bags in carts per 100 bags ...	7 4 0	7 4 0
Twine and gunnies at Rs. 32/- per hundred bags	32 0 0	32 0 0
Cartage from bazaar to godown ...	3 2 0	3 2 0
Godown rent at Rs. 2/- per hundred bags. ...	2 0 0	2 0 0
Marking charges for 100 bags ...	0 4 0	0 4 0
Trade allowance on Rs. 534 6 0 at as. 2 per Rs. 100	0 10 6	0 11 0
552 3 0		
<i>Dharmadaya</i> (charity) on Rs. 534 6 0 at 1 anna		
552 3 0 per Rs. 100/-	0 5 3	0 5 6
Exchange (discount) for " <i>hundies</i> " on Rs. 534 6 0 at as. 4 per Rs. 100/-	552 3 0	1 5 0
<i>Adat</i> (commission) at 1 anna per Rs. 100/- ...	5 4 0	5 8 0
Staff expenses on Rs. 534 6 0 at as. 8/- per Rs. 100/-	2 10 0	2 12 0
552 3 0		
Cartage from godown to Ry. station for 100 bags ...	3 2 0	3 2 0
Customs duty on 225 maunds at as. 4 per md. ...	56 4 0	56 4 0
<i>Hamali</i> or labour at the Ry. station for 100 bags. ...	2 4 0	2 4 0
Railway freight on 227 maunds and 30 seers at as. 14/6 per md. (including the weight of gunny bags) ...	206 6 0	206 6 0
Total cost of 165.1786 cwts. F.O.R. Bombay ...	859 8 3	877 13 0
Cost per cwt. ...	5.2046	5.3142
Difference of one rupee in the rate per <i>mani</i> = Re. 0.1096 per cwt.		
„ annas eight „ = „ 0.0548 „		
„ annas four „ = „ 0.0274 „		

The above *pro-forma* was collected by the writer on the occasion of his visit to Baran from the Agent of M/S. K. D. & Co. and has been brought to date by referring to their Bombay Office.

In addition to the *pro-forma* invoice shown above export houses maintain a *jantri* or ready-reckoner which enables them to find out at a glance the equivalent F.O.R. Bombay prices, knowing the local price of seeds and *vice versa*. The *jantri* is based upon the *pro-forma* invoice.

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The following table represents a *jantri* for produce bought by the Bombay merchant at Baran (Kotah).

“*Jantri*” or ready-reckoner for determining the price per cwt. F.O.R. Bombay at price prevailing at Baran (Kotah).*

Rate per <i>manī</i> at Baran	Rate F.O.R. Bombay per cwt.	Rate per <i>manī</i> at Baran	Rate F.O.R. Bombay per cwt.	Rate per <i>manī</i> at Baran	Rate F.O.R. Bombay per cwt.
Rs. As.	Rs.	Rs. As.	Rs.	Rs. As.	Rss.
30 0	5.2046	37 8	6.0266	45 0	6.8486
30 4	5.2320	37 12	6.0540	45 4	6.8760
30 8	5.2594	38 0	6.0814	45 8	6.9034
30 12	5.2868	38 4	6.1088	45 12	6.9308
31 0	5.3142	38 8	6.1362	46 0	6.9582
31 4	5.3416	38 12	6.1636	46 4	6.9856
31 8	5.3690	39 0	6.1910	46 8	7.0130
31 12	5.3964	39 4	6.2194	46 12	7.0404
32 0	5.4238	39 8	6.2458	47 0	7.0678
32 4	5.4512	39 12	6.2732	47 4	7.0952
32 8	5.4786	40 0	6.3006	47 8	7.1226
32 12	5.5060	40 4	6.3280	47 12	7.1500
33 0	5.5334	40 8	6.3554	48 0	7.1774
33 4	5.5608	40 12	6.3828	48 4	7.2048
33 8	5.5882	41 0	6.4102	48 8	7.2322
33 12	5.6156	41 4	6.4376	48 12	7.2596
34 0	5.6430	41 8	6.4650	49 0	7.2870
34 4	5.6704	41 12	6.4928	49 4	7.3144
34 8	5.6978	42 0	6.5158	49 8	7.3418
34 12	5.7252	42 4	6.5472	49 12	7.3692
35 0	5.7526	42 8	6.5746	50 0	7.3966
35 4	5.7800	42 12	6.6022	50 4	7.4240
35 8	5.8074	43 0	6.6294	50 8	7.4514
35 12	5.8348	43 4	6.6568	50 12	7.4788
36 0	5.8622	43 8	6.6842	51 0	7.5062
36 4	5.8896	43 12	6.7116	51 4	7.5336
36 8	5.9170	44 0	6.7390	51 8	7.5610
36 12	5.9444	44 4	6.7664	51 12	7.5884
37 0	5.9718	44 8	6.7938	52 0	7.6158
37 4	5.9992	44 12	6.8212	52 4	7.6432

Explanation of the Pro-forma and Jantri.—A perusal of the above *pro-forma* invoice discloses that the purchasers of seeds at Kotah and Baran have to bear almost all the expenses that purchasers generally bear in Seed Area No. I, with the exception of a few items which are either missing or included. For instance, the item of *marfat* is absent in this *pro-forma*. It appears that no *marfatias* or clearing agents are employed in the markets in this Area to look after the despatches of seeds to Bombay. There is the item of customs duty at as. 4/- per maund which does not exist at Patan. Customs duty is an export tax which is levied by the Kotah State and is a source of revenue to the State.

The *pro-forma* also discloses that although Messrs. Kilachand Devchand & Co. maintain an agency at Baran they employ additional brokers to make purchases of seeds for them. One fails to understand why an additional broker should be employed to make purchases in a small market like Baran. Surely a saving could be effected by entrusting the work of making purchases to their Agent. The only point against this seems to be, that

*T. G. SHIRNAME, *Marketing of Some Agricultural Products in the Bombay Presidency*, p. 10.

it would involve an extra burden upon the agent and would impair his efficiency. We were told that Messrs. Volkart Bros.* entrusted the work of making purchases to their agents at several market places in this Area and thus saved brokerage.

Let us now see how the *jantri* helps the up-country agents of the export houses and the Bombay merchants to arrive at a limit below which purchases should be made at the up-country market so as to reach Bombay at the price required by their principals. Supposing on a particular morning Messrs. Kilachand Devchand & Co., Ltd., wire their agent at Baran to purchase 100 cwts. of linseed at Rs. 6/- per cwt. F.O.R. Bombay. This telegram means that the agent of Messrs. Kilachand Devchand & Co. is required to purchase 100 cwts. of linseed at such a rate as would cost them Rs. 6/- per cwt. at Bombay. To arrive at the purchasing price of linseed at Baran the agent will at once refer to the *jantri* or the "ready-reckoner" and find out at what rate per *man*i he should purchase at the Baran market. This gives him the limit beyond which he is not to go. In case the market rate on that day at Baran is less than that, he can very conveniently effect a purchase; otherwise inform his principals of the rate ruling in the market and say that unless the limit is raised, purchases cannot be effected.

Commercial Organisations.—One is particularly struck with the absence of commercial organisations of merchants looking after their interests in these markets. I was told that attempts to organise an association of merchants were made at Baran but they did not fructify. At present, disputes arising among merchants are decided by a committee of important dealers selected for the purpose on the spot by both the parties and its decision is final.

Banking Facilities.—The Kotah State has started a co-operative bank called the "Kotah State Co-operative Bank, Ltd.," which has its branches at Kotah and Baran. It appears from the objects of the Bank that it is intended mainly to advance moneys to the co-operative credit societies and not to assist the traders of oil-seeds. Bye-law No. 10 of the Kotah State Co-operative Bank, Ltd., states: "No member of the public is ordinarily allowed to open a current account at the Bank except with the special permission of the Board of Directors." The Bank does no remittance business. In the absence of a branch of any joint-stock bank at either of these market places, the merchants in Bombay, as already mentioned, have many a time to send chests containing rupees to make disbursements. There are a few shroffs in these markets who do banking business and assist merchants in discounting *hundis*.

Godown Facilities.—Godowning facilities are poor at Baran while they seem to be adequate at Kotah. But even there the godowns are not built on sanitary basis. Any vacant dark house may be used as a godown. We were told, that as most of the seeds were ultimately meant for Bombay, the need for improving godowns was not felt.

*This firm has since then closed its seeds business.

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Despatches to Bombay and Railway Freight.—Seeds from this Area are mostly despatched to Bombay by the B.B. & C.I. route from Kotah and by the G.I.P. route from Baran. The distance from Baran to Bombay *via* G.I.P. is longer than the distance from Baran to Kotah and Kotah to Bombay, and, as such, Railway freight on seeds from Baran to Bombay *via* G.I.P. is more than the railway freight on seeds from Kotah to Bombay. The distance between Kotah and Baran is only 40 miles and there already exists motor bus service between these two places. Here is a hint for the authorities of the B.B. & C.I. Rly. to attract the seed traffic to the Kotah side by instituting lorry service between Kotah and Baran.

SEED AREA NO. III

Extent of the Area.—This Area lies to the south of Seed Areas Nos. I and II and consists of the Central Division of the Bombay Presidency together with portions of Central India, the Central Provinces and Berar and the north-western portion of the Nizam's Dominions. The Area is served by the B. B. & C. I., the G. I. P., the N. G. S. and the B. N. Railways. The Area is one of the most productive parts of the country and produces a variety of crops like wheat, cotton, pulses, and oil-seeds. Chief oil-seeds grown in this area are groundnuts, linseed, sesame seed, kardi seed and cotton seed. As the Area produces large quantities of cotton, cotton seed forms an important product of this Area. This Area may, therefore, be styled as the Cotton Seed Area.

Chief Markets.—The Area is fortunate in having a number of important markets, among which the names of Dhulia, Khandwa, Akola, Khamgaon, Murtaajapur, Amraoti and Wardha stand prominent. The markets at Amraoti and Akola are considered representative as far as this Seed Area is concerned and, as such, were visited by us with a view to making a comprehensive first-hand study of the marketing conditions in the Area.

Amraoti.—The town of Amraoti is situated on the G.I.P. Rly. at a distance of about 420 miles from Bombay. The town has a population of about 40,000 and is the principal town of the district of the same name. The town has two market places, one called the cotton market, a regulated market constituted under the Berar Cotton and Grain Markets Law, 1897, and a municipal market. The cotton market is reserved for transactions in cotton, whereas the municipal market is meant for all grains including groundnut and linseed. Cotton seed which is neither cotton nor grain is dealt with at neither of these markets.

Akola.—The town of Akola like Amraoti is the head-quarters of the district of Akola, and has a population of about 35,000. The town has several ginning and pressing factories, one oil mill and two cloth mills. Like Amraoti, there are two markets at Akola, one, the cotton market constituted under the Berar Cotton and Grain Markets Law, and the other, Municipal grain market.

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Berar Grain and Cotton Markets Law of 1897.—Before we describe the conditions of marketing at these two markets, it will not be out of place here to give an idea of the working of markets instituted under the Berar Cotton and Grain Markets Law of 1897, and the rules framed thereunder. It may be pointed out at the outset, that this Law although originally meant to organise markets for both grain and cotton is being, in practice, utilized for the organisation of markets for cotton only and not for grain and seeds.

Under this Law the Deputy Commissioner of the district is given powers to arrange for the appointment of a Market-Management Committee for each market in the district, which consists of not less than 8 and not more than 12 members representing the interests of the village panchayats, co-operative societies, cotton growers and cotton traders served by the area.

This Committee is authorised to do everything in its powers to ensure fair trading and prompt payment in all transactions conducted within the market, and to utilize its funds for the following objects:—

- (a) for the maintenance and improvement of the market, its surroundings and approaches;
- (b) for the construction and repair of buildings, *chabutras* and other erections required for the market; "
- (c) for the health, convenience and safety of persons using the market; and
- (d) for a provident fund system for its employees.

Under this Law all those who intend to work as brokers, buyers or weighmen are required to get their names registered as such in the books of the Market-Management Committee by paying the prescribed fees. The Management Committee is also authorised to levy fees on the sellers of cotton (cultivators) who make use of the cotton market yard. The Committee is also empowered to appoint Dispute Committees with a view to facilitating the settlement of disputes without delay.

C.P. Municipalities Act of 1912.—Certain markets in this Area, particularly those for grain, are regulated under the C.P. Municipalities Act of 1912 under which the Municipality of a town is given powers to appoint a Grain Market Committee, consisting of members partly elected by the Municipality and partly by the grain traders. The Grain Market Committee is empowered to frame rules for the registration of weighmen, brokers and *adatyas*, and for the charging of tax on vehicles bringing the produce of the district including oil-seeds to the market for sale.

Market Place for Cotton Seed.—Cotton seed, which is the principal oil-seed of this Area, is dealt with at neither of these

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markets. The chief places where it is dealt with are the compounds of the ginning factories where heaps of cotton seed obtained after the ginning of cotton are deposited for sale. Heaps belonging to different owners are distinguished from one another by a pole bearing a flat piece of wood or cardboard bearing the name of the owner. These heaps lie in the compounds of the gins till they are disposed of, or removed to a godown.

Sales and Methods of Sale.—Sales of cotton seed, which go on throughout the day, are effected through brokers who bring the prospective buyers to the gin and try to strike a bargain to the common agreement of the seller and the buyer. The system of calling for bids, which we found quite common in other Seed Areas, is absent in these markets. For this service to the seller a broker is entitled to a brokerage of one anna per *khandi** of 784 lbs. After the sale is effected the seeds are weighed in the compound of the gin by weighmen whose charges come to 3 annas a *khandi*. Both the above charges of brokerage and weighment are borne by the sellers and the buyers. At the time of weighment no deductions of any kind are made from the weight of cotton seed, the purchasers taking upon themselves all the risks of quality, etc.

Purchasers and the Methods of Purchase.—Principal purchasers of cotton seed at these markets are local merchants, exporters, and the Cotton Oil Mill of Navsari. Local merchants buy chiefly with a view to sell retail to farmers who need cotton seed to feed their animals, or wholesale to merchants in other cities. Exporters buy to ship abroad, whereas the Indian Cotton Oil Mill, Navsari, buys for local consumption. The principal exporters who buy cotton seed in these markets are Messrs. Ralli Bros., Birla Bros., Messrs. Kilachand Devchand & Co., Ltd., etc. The usual method of purchasing cotton seed followed by the foreign as well as the Indian export houses having their head offices in Bombay is either to open an agency in these markets or to send their representatives and buy seeds through them. Certain firms like Messrs. Kilachand Devchand & Co., Ltd., make their purchases of seeds through their *adatyas* to whom they allow a certain percentage by way of *adat*. We found that at the Amraoti market, Messrs. Kilachand Devchand & Co. were making their purchases of seeds through their *adatyas*, Messrs. Surajmal Nemani & Co.

Pro-forma Invoice of Expenses.—Exporters and their agencies maintain with themselves a *pro-forma* invoice of expenses which at once enables them to know the exact expenses which a particular lot of cotton seed will have to bear. We give below a copy of such a *pro-forma* invoice of expenses maintained by the representative of Messrs. Kilachand Devchand & Co., Ltd., at Amraoti.

**Khandi* is also spelt *Candy*.

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Pro-forma Invoice of 100 candies of cotton seed purchased at Amraoti and consigned to Bombay on F. O. R. Bombay basis.

Local weights :—

28 lbs. = 1 maund.

28 maunds = 784 lbs.

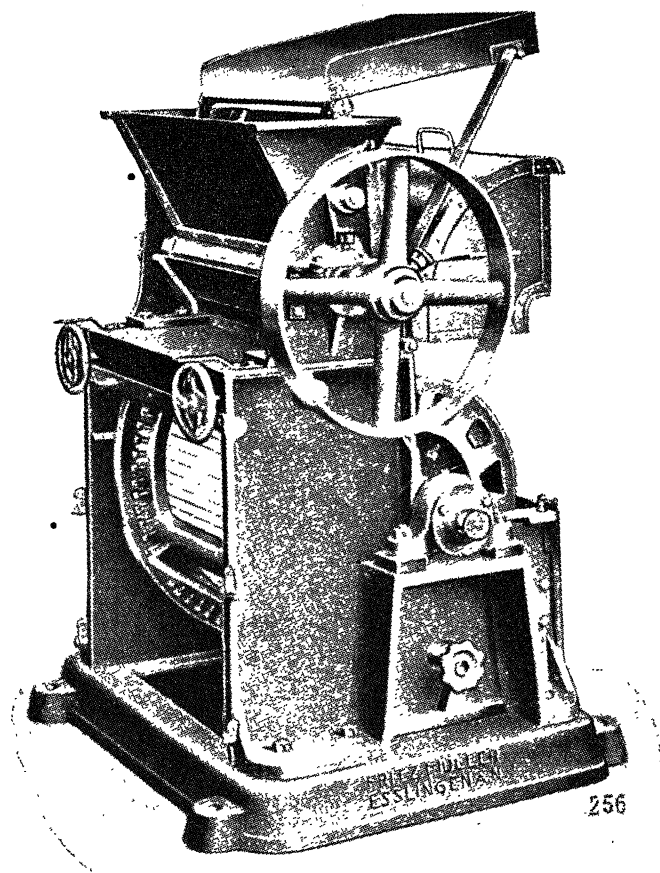
= 1 Khandi (Candy) = 7 cwts.

Particulars of expenses.	At Rs. 20/- per candy	At Rs. 21/- per candy
	Rs. a. p.	Rs. a. p.
Price of 100 candies—(560 bags each weighing 5 maunds of 28 lbs.)	2,000 0 0	2,100 0 0
Expenses:—		
Gunny bags @ Rs 20/- per 100 bags	112 0 0	112 0 0
Shagirdi (Charity) @ Rs. 0 4 6 per 100 bags	1 9 3	1 9 3
Weighing charges @ Rs. 0 3 0 per candy for 100 candies	18 12 0	18 12 0
Brokerage @ Rs. 0 1 0 per candy for 100 candies	6 4 0	6 4 0
Cartage for 40 carts to the Station @ Rs. 0 6 0 per cart each containing 14 bags of seeds	15 0 0	15 0 0
Municipal Tax @ Rs. 0 1 0 per Rly. mnd. for 956½ maunds	59 12 6	59 12 6
Marfat charges @ Rs. 0 1 0 per candy	6 4 0	6 4 0
Commission charges @ Rs. 0 8 0 per cent.	10 0 0	10 0 0
Rly. freight on 956½ Rly. mds. @ Rs. 0 6 9 per Rly. maund	403 8 6	403 8 6
	2,633 2 3	2,733 10 3
Therefore price of 1 candy of 7 cwts is	26 5 3	27 5 3
„ „ 1 cwt.	3 12 2	3 14 5
Difference of Re. 1 in candy = difference of Rs. 0 2 3 per cwt.		
„ As. 8/- „ = „ „ „ 0 1 1½ „		
„ As. 4/- „ = „ „ „ 0 0 6¼ „		

N.B.—This *pro-forma* invoice was collected from the representative of Messrs. Kilachand Devchand & Co. Ltd., at Amraoti on our visit to the market during the month of April, 1935.

Explanation of the Pro-forma Invoice.—The above *pro-forma* invoice discloses that the purchasers of cotton seed in the market at Amraoti have to bear a variety of expenses. *Shagirdi* is an item of charity. Municipal tax is a tax imposed by the Municipality of Amraoti on the exports of cotton seed. Brokerage signifies the remuneration of the broker, the *marfat*, the remuneration of the forwarding agent; whereas the *commission* represents the charge of the commission agent or the *adatya*. Although it is beyond the scope of our thesis to criticise the *pro-forma* invoice prepared by the exporters, yet we cannot help pointing out that certain items of expenses as detailed in the above *pro-forma* invoice are avoidable, and so much saving could be effected in the expenses. We refer to the items of *marfat* and *commission*, in which considerable saving could be effected.

Commercial Organisations of Merchants.—At Amraoti there is an association of cotton seed merchants, called the Cotton Seed Merchants' Association. This Association was instituted in the year 1934. The Association was started mainly with a view to regulating the forward business in cotton seed. Soon after its inauguration, the members indulged recklessly in



F. Mueller's Cotton Seed Decorticator.
(Sole Importers for India: Volkart Brothers.)

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speculation in cotton seed and suffered heavy losses with the result that the activities of the Association had to be suspended. Attempts are again being made to revive its activities. A similar Association, called the Cotton Seed Merchants' Association, exists at Akola, and regulates chiefly the *waida* business in cotton seed. This Association was started in the year 1933 and is not even five years old by this time.

At Akola there is another Association of Merchants, called the Berar Chamber of Commerce. This Chamber though of recent origin appears to be doing some useful work in connection with trade in this Area.

Banking Facilities.—Banking facilities in this Area are adequate. The Imperial Bank of India has branches at Amraoti, Akola and at several other markets in this Area. The Imperial Bank generally advances money against the security of cotton seed and groundnut to the extent of 75% of the market price of the seeds. There are also the *pedies* of indigenous bankers who advance loans against the security of oil-seeds. It appears that local merchants of Amraoti and Akola prefer to take advantage of the facilities offered by the indigenous bankers to those offered by the Imperial Bank of India as it involves less rigid formalities. However, the usefulness of the branches of the Imperial Bank of India to the merchants in this Area cannot be under-estimated.

Despatches from this Area.—Cotton seed produced in this Area is despatched to several parts of India. We learnt that consignments of cotton seed go to the Punjab, Kathiawar and Bombay. Navsari, which is an important town in this Area and has a cotton oil mill, receives large supplies of cotton seed for its consumption.

SEED AREA NO. IV

Situation & Extent of the Area.—This Seed Area lies to the south-west of Seed Area No. III, and covers a greater portion of the Bombay Presidency, western portion of the Hyderabad State, and the Native States of Kolhapur, Sangli, Jath, etc.

This Seed Area is served by two railways. One of them is the G.I.P. Railway which runs from the north-western corner to the south-eastern extremity of the Area, the other, the M. & S. M., a metre-gauge railway, serving the Area from Poona to Miraj and Kolhapur. The Area is also served by a narrow-gauge railway, the Barsi Light Railway, which connects Latur, a town in the Hyderabad State, to Kurduwadi, a railway station on the G.I.P. route from Bombay to Raichur. The south-western section of the Barsi Light Railway from Kurduwadi to Pandharpur has recently been extended to Miraj on the M. & S. M. Railway, thus affording an outlet for the produce of this Area. But this section of the Barsi Light Railway does not handle much traffic in oil-seeds. It is chiefly used as a pilgrim line.

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Seeds Grown in the Area.—The chief oil-seeds grown in this Area are groundnuts, kardi seed, linseed and cotton seed. As the quantities of kardi seed and cotton seed produced in this Area are much smaller than those of groundnuts and linseed, the Area may well be termed as the Groundnut and Linseed Area.

Chief Varieties of Seeds.—Several varieties of groundnut are grown in this Area. Some of them which require mention at our hands are:—

1. “Bold Variety” or “American Variety.” This is also known as the “Kolhapur Bold.” It is the variety which contains 35% to 38% of oil and is generally consumed locally.

2. “Groundnut Small” or the “Japanese Variety.” This contains a bit higher percentage of oil than the “Bold Variety.”

3. “*Lal Boria*” or “Uptia”. This variety, as its name suggests, is red in colour and contains a higher percentage of oil than all the rest. This variety is the favourite of the mills in this Area, and generally fetches a higher price than other varieties. This variety generally does not reach the Bombay market.

Linseed which arrives at the Barsi market comes from the district of Sholapur and the Nizam’s Dominions. It is of the “Bold Variety” and is known as the “Mogulai Linseed.” This name has nothing else to suggest except that the seeds come from a Muslim State.

Season for the Seeds.—Groundnut in this Area is a winter crop and begins to come into the market in the month of October and continues till the beginning of February; whereas linseed is a spring crop and appears in the market in the month of February and transactions go on till October. Kardi seed, which is also an oilseed crop of this Area, comes to the market earlier than groundnut and is disposed of within a month, most of it being purchased for consumption by the local oil mills and the village merchants.

Important Primary Markets.—Kolhapur, Sangli, Jayasingpur, Satara, Karad, Barsi, Latur and Sholapur are the important oilseed markets in this Area, but the representative markets are Sangli, Kolhapur, Barsi and Latur, the first two for groundnuts and kardi seeds, while the last two for linseed, groundnuts and cotton seed.

Sangli and Kolhapur.—Sangli and Kolhapur are the capital towns of the States of the same names and are situated at a distance of about 25 miles from each other. Both the towns are on the M. & S. M. Railway.

Barsi and Latur.—Latur is a town situated in the Nizam’s Dominions and is the terminus of the Barsi Light Railway. It is situated at a distance of about 50 miles from Kurduwadi Junction on the G. I. P. Railway. Barsi is a station on the Barsi Light Railway at a distance of about 22 miles from Kurduwadi. Both these towns are markets for groundnuts, linseed and cotton seed.

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Arrivals of Seeds.—Seeds^{*} arrive in these markets in carts which contain about six bags of linseed or about ten bags of unshelled groundnuts. The seed bags are removed from the carts by the coolies and are deposited on either side of the bazaar leaving a narrow passage for the pedestrians to pass through, as there is no separate market place constructed for the purpose at either of these towns.

Sales and Methods of Sale.—At Kolhapur and Barsi, the sales of groundnuts and linseed are effected through commission agents, who are also money lenders. They advance money to the cultivators at the time of sowing the crops and in times of need and have an agreement signed by them to the effect that they would sell their goods through them and pay off the old debts. Thus, the commission agents in these markets perform the double function of bankers and commission agents. The rates of interest charged on such loans vary from 10% to 20%.

Seeds are not displayed in full in these markets, but bags piled one above the other are opened from one corner just to allow the prospective purchasers to remove the samples. The linseed bags at Barsi are not opened at all and the samples are removed by a specially devised sample-removing probe called *bamboo*. There is no determination of *karta* as in Seed Areas Nos. I and II, and the prices are fixed on the basis of quality. The sales of seeds are effected by auctions but the methods of calling bids are different at different markets. At Sangli the bids are so many rupees per *candy* of 560 lbs. At Kolhapur, they are so many seers per rupee and the bidders have to come down instead of going high. For instance, if the first bidder bids 7 seers per rupee, the second has to bid something less and so on till the bidder who is prepared to accept the least number of seers per rupee has the auction in his favour. At Barsi the sales are for so many *pailis* per rupee. Here too the bidders have to bid low instead of bidding high.

System of Weights and Measures.—The measures and weights are different at different markets in this Area. At Kolhapur the unit of weight is a seer of 80 tolas. At Sangli a *candy* of 560 lbs., and a maund of 28 lbs., 20 maunds being equal to 1 *candy*. At Barsi the unit of measure is a *paili*. A *paili* is divided into two *adailis*. The *paili* seems to be not a desirable measure, for, in the first place, the *pailis* of different seeds vary. A *paili* of linseed varies from a *paili* of groundnut. Secondly, measuring by a *paili* is not very accurate as one *paili* of linseed can be made to contain a little more or less of seeds than the other. It was brought to our notice, that it was the chief complaint of the purchasers at the Barsi Market that they did not get the right measure many a time, and were at the mercy of the *mapadis*. Even if a complaint was raised against the measure, it was, more often than not, decided against the purchasers, for complaints regarding measure are decided by *mapadis* themselves and not by any other higher organisation, because none such exists.

Practices Relating to Sales of Seeds.—Certain practices relating to the sales of oil-seeds in these markets require special

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mention, inasmuch as they differ widely from one another. At Sangli after a lot of groundnuts has been sold, two bags per hundred are selected by the purchaser and weighed together. Then both the bags are emptied and the contents of both are rubbed with hands so as to remove the dirt sticking to the pods, and then the dirt is weighed. The weight of the dirt plus the weight of the empty bags is deducted from the weight of the two bags and the weight of the contents of a bag of groundnuts is arrived at. A further deduction of 2 lbs. per bag is made as *kantachut* from his weight and this gives the net weight of a bag of groundnuts. It seems to be a custom at the Sangli market, that a deduction of 3 lbs. per bag as dirt allowance is made from the weight of the groundnut contents of a bag, even though there is no dirt. In case the quantity of dirt be more than the prescribed allowance, the farmer is made to pay a penalty according to the following scale:—

Quantity of dirt.					Penalty.
0 seer	..	..	..	..	3 seers
3 seers	..	..	..	..	3 seers
4 seers	..	..	..	..	5 seers
5 seers	..	..	..	..	7 seers
8 seers	..	..	..	..	16 seers

These deductions are made from the net weight of the groundnut contents of a bag and the weight of the whole lot is arrived at by simple multiplication. We were told that the fear of penalty prevents the farmers from playing any mischief by way of adding dirt, etc.

At Kolhapur two bags of groundnuts are weighed in one balance and the following deductions are made from this weight to arrive at the net local weight:—

- 6 lbs. per pair of bags by way of bagging.
- 5 lbs. per pair of bags by way of *karta*.
- 2 lbs. per pair of bags by way of *dirt*.

This deduction of 13 lbs. from the gross weight of the two bags gives the net allowable weight of the two bags. After arriving at the total allowable weight in the above manner, a still further deduction at the rate of 4 lbs. per cart as *labh* is made. *Labh* means profit. One simply wonders what this item of *labh* means, except that it is an additional gain to the purchaser.

The Barsi market is more simple than the Sangli and Kolhapur markets inasmuch as there is no *kantachut*, no *labh*, and no determination of *karta*, and the bidders while bidding have to take all the risks upon themselves. They bid after taking into consideration the quality of seeds.

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Approximate Cost of Marketing a cart containing 16 bags of 80 lbs. each of Unshelled Groundnuts at the Sangli Market.

			Rs.	as.	p.
<i>Adatya's</i> commission	..	..	2	8	0 per cart.
<i>Hamalage</i> (for removing the bags)	..	..	0	3	0 „
<i>Dharmada</i> (charity)	..	..	0	3	0 „
<i>Panjarapole</i>	..	..	0	3	0 „
<i>Kantachut</i> (at 2 lbs. per bag).					
Rent for gunny bags, if the bags have been borrowed from the <i>adatya</i> at $\frac{1}{2}$ anna per bag	..	..	0	8	0 „
Dirt 3 lbs. per bag	..	..	48	lbs.	„
Exchange at as. 3 per 100 rupees.					

Approximate Cost of Marketing a cart containing 16 bags of 80 lbs. each of Unshelled Groundnuts at the Kolhapur Market.

			Rs.	as.	p.
<i>Adatya's</i> commission	..	..	2	4	0 per cart.
<i>Hamalage</i>	..	..	0	3	0 „
<i>Dharmada</i> (charity)	..	..	0	1	0 „
General fund	..	..	0	0	3 „
<i>Karta</i> at 5 lbs. per 100 bags.					
<i>Labh</i> at 4 lbs. per cart.					
Dirt allowance at 1 lb. per bag.					
Exchange at as. 3 per 100 rupees.					

Approximate Cost of Marketing a cart containing 6 bags of Linseed weighing 184 lbs. each net at the Barsi Market.

			Rs.	as.	p.
<i>Adatya's</i> commission	..	..	2	0	0 per cart.
<i>Hamalage</i>	..	..	0	1	0 „
<i>Mapadi</i> charges	..	..	0	3	0 „
Rent for bags	..	..	0	3	0 „
Exchange at as. 3 per 100 rupees.					

A comparison of the three markets shows that the Barsi market is the cheapest market from the point of view of the producers of seeds, but as the distance of Barsi from the other two markets is long, there is no fear of its competing against the other two markets. As regards Sangli and Kolhapur, which

N.B.—The cost of marketing were collected by us on the occasion of our visits to these markets.

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are near each other and which are fed by practically the same Seed Area, there is a fear of the one competing against the other. The Kolhapur market is cheaper than the Sangli market to the producer from the point of view of marketing and is, therefore, favoured by him. The river Krishna lies between Sangli and the area from which oil-seeds are received. As the river is often in floods during the groundnut season much of the trade is diverted to Kolhapur during these months. Recently, the Chief of Sangli has erected a bridge over the river so as to enable the producers to bring their produce to the Sangli market even when the river is in floods. One wonders if the construction of the bridge will have much effect in diverting the trade to the Sangli side unless the Sangli market is made cheaper to the producer of groundnuts by reducing marketing expenses.

Purchasers and Methods of Purchase.—Purchasers in these markets are:—

1. Local merchants.
2. Representatives of Bombay merchants.
3. *Adatyas*.
4. Representatives of oil mills.
5. Non-Indian export houses.
6. Indian export houses.

Local merchants purchase seeds with a view to retailing them to local *ghanis* and retail dealers. Their purchases are generally small, except at Sangli and Kolhapur, where they purchase large quantities of groundnuts with a view to re-selling them to the agencies of export houses and even to Bombay merchants. Certain grain trading firms of Bombay send their own men who stay at these markets during the season and make purchases on behalf of their principals. The principals, generally, pass on limits to their representatives within which to purchase. In case the limit is low, purchases are not made, and counter limits, which are based upon the prices ruling in the markets, are passed on by the representatives.

Adatyas, who are men on the spot and through whom transactions pass, also make purchases on behalf of their clients as well as for themselves.

Export Houses and their Purchases.—The business of non-Indian export houses is done on systematic lines. Every year in the beginning of the seed season the export houses send their agents to various oilseed markets. Each agent prepares a *pro-forma* invoice of expenses which he submits to his head office for approval. The head office, after approving of the said *pro-forma* invoice of expenses, sends a copy of the same to the Agency for future guidance. *Pro-forma* invoices contain all items of expenditure to be incurred on the purchases of groundnuts or linseed as the case may be. Purchases by the export houses are made by passing F.O.R. Kolhapur or F.O.R. Bombay limits to their agents.

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The following is a *pro-forma* invoice of groundnuts purchased at Sangli and despatched to Bombay Grain Depot on F. O. R. Bombay basis.

Pro-forma invoice of 100 bags of shelled groundnuts of 175 lbs. each purchased at Sangli Market and despatched to Bombay on F. O. R. Bombay Basis.*

Local weight :—			
28 lbs.	= 1 maund.		
20 maunds	= 1 candy	= 560 lbs.	
Particulars of Expenses.	At Rs. 60/- per candy		
	At Rs. 61/- per candy		
	Rs.	a.	p.
Cost of 100 bags (17,500 lbs.) equal to 31.25 candies	1,875	0	0
Expenses:—			
Shroffage at as. 8/- per cent.	9	6	0
Railway freight on gunnies†	2	6	3
Filling, weighing and stitching charges on 100 bags	4	11	0
Stacking charges on 100 bags	1	8	0
Cleaning charges	1	8	0
Cartage at 1 anna per bag	6	4	0
Charity as. 4/- per 100 bags	0	4	0
Exchange at Rs. 0 2 6 per cent.	2	15	6
"Hundikari" on 100 bags	1	9	0
Twine charges	0	6	0
Railway freight on 100 bags equal to 215 Railway maunds at 9 as. 5 pies per maund	126	8	6
Cost of 100 bags or 17,500 lbs. 156.25 cwt.	2,032	6	9
Cost of 1 cwt.	13	0	1
Difference of Rs. 1/- per candy = Rs.	0	3	2
As. 8/- " = " 0 1 7			
As. 4/- " = " 0 0 9½			

Firm Offers.—Local merchants of Kolhapur, Sangli and Barsi sometimes also make 'firm offers' to the agents of export houses who pass them on to their head offices. 'Firm offers' are offers for the sale of goods which stand open for a stated time, say 24 hours reciprocal, and are automatically cancelled if not availed of.

Forward Transactions.—Forward transactions are transactions in which delivery is to be made in future. Such transactions are entered on regular contract forms. Agents of the export houses, under instructions from their head offices, enter into forward transactions with local merchants or with local *adatyas*. A copy of such a contract entered into between the agency of Messrs. Kilachand Devchand & Co., Ltd., and a local merchant is set out in Appendix B.‡

Agency Pass and Bombay Pass.—Agencies of export houses at Sangli, Kolhapur and Barsi enter into still another type of transactions with the local merchants or *adatyas*. These transactions are termed as "Agency Pass" or "Bombay-Pass" according as the question of quality and refraction is to be decided by the up-country agency, or the head office in Bombay. In the case of "Agency Pass", the decision of the Agency is

* This *pro-forma* was collected by the writer on the occasion of his visit to Sangli in the year 1930.

† This is so when the gunny bags are got from Bombay from the head office.

‡ See Appendix B. Form No. 1.

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considered as final and the payment is made immediately after the Agency has declared its result. In the case of goods sold under "Bombay Pass", only 90% of the price of the goods is paid by the Agency on the delivery of the goods while the rest is to be paid on hearing from the Bombay Office. The latter type of transactions are quite safe so far as the responsibility of the Agency is concerned, but merchants generally hesitate to enter into such transactions, as they are sometimes put to a loss, as in Bombay the seeds are subjected to a very close scrutiny, and also, the sellers have to wait for the remaining 10% for a month or more.

Purchases through Guaranteed Brokers.—Certain exporters who cannot have an elaborate buying organisation make their purchases through merchants who are called "Guaranteed Brokers." Guaranteed brokers in consideration of a fixed amount paid to them are asked to make purchases for the export houses and to hold themselves responsible in matters of quality and refraction even to the destination of seeds which may be the Continent of Europe. Buying organisation, or the establishment in the primary markets belongs, therefore, to the guaranteed brokers and not to the export house. We learnt in the course of our investigation at Kolhapur that Messrs. Kilachand Devchand & Co., who are themselves exporters of oil-seeds and cotton, were also working as guaranteed brokers to Messrs. Louis Dreyfus & Co., a foreign export house in Bombay.

Purchases through Purchasing Agents.—It is sometimes not paying to an export house to maintain an office or sub-office at a seed market. In such cases purchases are made through local merchants who are appointed as local purchasing agents. We had occasion to refer to these purchasing agents while describing the organisation of markets in Seed Area No. I. These purchasing agents are local merchants through whom export houses make their purchases in primary markets. These purchasing agents are given no special remuneration for this sort of work. They only enjoy the privilege of making purchases for the export houses. It is left to them to purchase low and to sell reasonably high to the export houses.

We give below the terms on which some of the export houses make their purchases from the up-country purchasing agents:—

Terms and Conditions on which Messrs. Kilachand Devchand & Co., Ltd., Bombay, make their purchases from their Purchasing Agents.*

-
- | | |
|---|-----------------------|
| (1) You will act as our correspondent and buy for or sell to us produce, <i>viz.</i> , seeds and wheat. | |
| (2) All quotations and prices are to be for net weight F. O. R. Bombay on the following terms:— | |
| (a) Tilseed | refraction 4% mutual. |
| Linseed | " " " |
| Poppy seed | " " " |
-

*This is more or less an exact copy of the contract form for any firm which is appointed by Messrs. Kilachand Devchand & Co. Ltd., as their purchasing agent.

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Groundnuts	refraction	4%	mutual
Castor seed	"	"	"
Rapeseed	"	"	"
Kurdi seed	"	"	"
Niger seed	"	"	"
Mowra seed	"	"	"
Cotton seed	"	"	"

(b) Refraction over the guaranteed standard to be deducted from weight, if it is under this basis, nothing to be added to the net weight.

- (3) You will have to pay all the charges on your side in addition to railway freight up to Bombay.
- (4) With railway receipts, except for those of cotton seed, you will draw 90% only of the value after deducting railway freight. Railway receipts must bear our names as consignees and will be consigned to us direct and on receipt of them your draft will be paid. All over-drawn drafts will be returned.
- (5) As soon as the produce is in our godowns, sample, quality and analysis will be drawn and settled and account sales will be prepared and sent to you on this basis. These accounts will show the balance for which you will draw separately.
- (6) All Bombay weights, qualities and analysis are to be considered final.
- (7) New gunny bags will be supplied by you free of charge and their weight will not be included in the weight of the stuff.
- (8) Your remuneration or commission will not be a separate item, but will be included in the rate of produce.
- (9) All correspondence to be carried on in English or Gujarati.
- (10) Telegraphic and postage expenses of each side will be met by each party.
- (11) All purchases made by you, unless expressly stated to the contrary, are for immediate despatch, *i.e.*, the railway receipts are to be in our possession within 15 days, at the most, from the date of the purchase. Should the railway receipts not be to our hands 15 days after the purchase is effected, it is in our option to cancel such purchases or to buy goods on your account at current market rates.
- (12) In case of forward-delivery contract-purchases, railway receipts should be in our possession 10 days before the expiration of due date.
- (13) In case of cotton seed, you will draw 75% of the value after deducting railway freight. The railway receipts should be sent as early as mentioned above.

*Signature*_____

*Date*_____

*Witness*_____

*Town*_____

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Decorticators and their Services.—We have already referred to the fact that groundnuts come to the Kolhapur and Sangli markets in an unshelled condition, whereas arrivals at Barsi market are of shelled groundnuts. Shelled nuts as they reach the Barsi market are not in a good condition. They are, in the first place, damp and, in the second place, contain a number of broken nuts. This is due to the fact that groundnuts before shelling the moistened and shelling is done by beating the wet nuts with sticks. This method of shelling the nuts makes the work of the shellers easy, but it is a harmful practice as it spoils the quality of the nuts. Dampening the seeds with water makes the oil rancid. The oil obtained from such nuts contains a larger percentage of free fatty acids than that obtained from dry nuts. In the States of Sangli and Kolhapur this practice has been done away with and has been substituted by shelling the nuts in decorticators. As the growers are not in a position to plant decorticators of their own, they bring the nuts to the markets in an unshelled condition and the sales take place as such, but the purchasers after making purchases of unshelled nuts get them shelled or decorticated at a local decorticator.

Commercial Organizations looking after the Trade.—With the exception of the Barsi market the seed trade in other markets like Sangli and Kolhapur is organized by local Associations of merchants.

At Kolhapur there is an Association of merchants called the Shahupuri Merchants' Association. This Association was started in the year 1927, and has been able to build an elaborate code of rules and regulations for oilseed (groundnut) trade. The affairs of the Association are conducted by an influential managing committee under which there is an Arbitration Board which looks to the disputes among merchants in this trade. The decision of the Board is final.

At Sangli there also exists a similar association of merchants which is called The Sangli Chamber of Commerce. This chamber seems to be more or less a semi-official organisation initiated by the State. The general body has two sections, one, representative of the interests of buyers, and the other, of sellers. There is a managing committee of 12 members with a president of its own. Over and above this committee there is a board consisting of three members, one, a State official, another, a merchant, and the third, nominated by Government. Disputes not settled by the Managing Committee are referred to the Board and its decision is final. Government generally agree with the decision of the Board.

Banking Facilities.—The banking facilities to the oilseed merchants in this Seed Area are very meagre. At Barsi and Sangli the traders have to look to shroffs only for assistance in times of need. There is a State Bank at Kolhapur which renders some assistance to traders in seeds. The usual method of financing the seed traders followed by the bank is by advancing 75% to 80 % of the price of the seeds against the delivery of the goods. The rate of interest charged varies from 6% to 9%. In case a trader manages to sell the goods to an export house the

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delivery of the goods is made to the trader on the production of a letter from the agency of the export house that the seeds have been purchased by them, and that the price of the same would be paid to the bank and not to the merchant.

Godown Facilities.—As the seeds purchased in these markets are meant generally for immediate despatch to Bombay, no necessity arises for long-time storage. However, godowns do exist in these markets and merchants do take advantage of them. Export houses generally rent godowns for the whole season. The usual rent of a godown 20' by 40' is about Rs. 5/- a month.

Transport Facilities.—None of the three markets lies on the broad-gauge railway. Barsi is a station on the Barsi Light Railway and at a distance of 22 miles from the nearest G.I.P. broad-gauge station, Kurduwadi. Seeds are carried in the wagons of the Barsi Light Railway up to Kurduwadi, where they are transhipped into the wagons of the G.I.P. Railway. All this is done by coolies, on their backs, which means waste of time. At Barsi the despatches are often delayed on account of the scarcity of wagons.

At Sangli and Kolhapur similar difficulties exist. Both the markets are situated on the M. & S. M. Railway metre-gauge line which meets the G.I.P. Railway at Poona. Seeds in these cases are transhipped into the G.I.P. carriages at Poona. In the absence of any crane arrangement at Poona, there is bound to be delay in the transhipment of seeds.

Seeds from Sangli and Kolhapur are sent to Bombay and to Marmagao which of late is coming into importance. The seeds from Barsi are despatched mostly to Bombay.

CHAPTER IV

MARKETING OF OIL-SEEDS (*contd.*)

Transport of Oil-seeds & Railway Rates

General.—Oil-seeds being mostly meant either for the terminal markets or for the foreign markets have to travel from the areas where they are grown to the nearest ports of export. This journey is covered up in two stages:—

- (1) From the farm to the nearest primary market, and
- (2) From the primary market to the terminal market, i.e. the port town.

First Stage.—The agriculturist is proverbially poor, and the roads from his farm to the nearest town of business are bad and un-metalled. He generally takes the help of his bullock cart or animals like asses, mules, or in some cases, camels, to take his produce to the nearest primary market; and after having disposed of his wares returns home by the evening or the next day at the latest. If he makes use of his own oxen he has to pay hire for the cart or he may have to hire the use of the horses and the asses of the village potter and pay him in kind or coin. The village *sowkar*, who collects seeds in kind from the farmers, also wends his way towards the primary market and also makes use of the pack animals. They both are determined to sell their goods, whatever the price. They cannot bring the goods back, nor can they stock them in the primary market, as in most of the primary markets no godowning facilities exist. In this respect the village *sowkar* is at an advantage because he being a shrewd business man, many a time, looks to the tone of the market and if he finds it unfavourable, arranges to stock his goods with his *adatya* leaving instructions to dispose them of when prices take a more favourable turn; whereas the farmer must sell, because he cannot afford to wait.

Second Stage.—The second stage in the journey of the oil-seeds begins when they travel from the primary market to the terminal market, which is generally a port town. This journey is not only long but is also interesting, as it is in this stage that the seeds are entrusted to the fostering care of a common carrier, who undertakes to carry them safely to the destination on payment of a charge, called freight. The railway is the most important mode of transport in this stage. Transport by water does not play an important part in this stage except in certain places in Bengal and the United Provinces. There is no doubt that water transport offers certain facilities which railway transport does not, but as in most cases there is no direct water transport available from the primary market to the terminal market, rail-transport is generally the rule.

General Classification of Goods on Railways.—For the purposes of charging freight goods carried by railways are

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divided into ten classes, and each class is allowed a maximum and a minimum rate. The maximum and minimum rates are sanctioned by the Railway Board and the railway administration cannot go beyond these limits. However, the railways are given discretionary powers to vary the rates within these limits.

Following is the general classification of goods on railways with maximum and minimum rates per maund per mile:—

<i>Classes</i>	<i>Max. rate per maund per mile</i>	<i>Min. rate per maund per mile</i>
I.	.38 pie.	.100 pie
II.	.42 „	.100 „
III.	.58 „	.166 „
IV.	.62 „	.166 „
V.	.77 „	.166 „
VI.	.83 „	.166 „
VII.	.96 „	.166 „
VIII.	1.04 „	.166 „
IX.	1.25 „	.166 „
X.	1.87 „	.166 „

Classification of Oil-seeds.—Oil-seeds, excluding groundnut and copra, are classed with “Seeds Common” in the Railway Goods Tariff; and fall in class I for which the maximum rate per maund per mile is .38 pie and the minimum rate is .100 pie per maund per mile.

Groundnuts are classed separately from the common seeds and are put in class IV. If in wagon loads they are classed in Class III at Railway Risk and in Class II at Owner’s Risk subject to condition* (W|300, B.G., W|160 M.G., and N.G., O.R., L.).

Railway Rates.—Rates on Indian Railways are of three types:—

- (a) Class Rates,
- (b) Schedule Rates,
- (c) Station-to-Station Rates or Special Rates.

Class Rate.—A Class Rate for any commodity is the maximum rate of the class in which that commodity falls.

Schedule Rate.—A Schedule Rate is a rate quoted on a basis lower than the maximum of the class rate. It may be on a uniform

*W/followed by a figure indicates the minimum weight in maunds per four-wheeled wagon to which the rate applies, e. g., W/300 means that the rate applies to a minimum wagon-load of 300 maunds per four-wheeled wagon, 450 maunds per six-wheeled wagon, 600 maunds per bogie wagon. Should wagons of a lower carrying capacity than the minimum weight specified be used, charge will be made on the carrying capacity of such wagons, subject to Rule 52B (Goods Tariff, Part I, B. B. & C. I. Rly., page 86).

B.G - means broad gauge. M.G - means metre gauge.

N.G - means narrow gauge. O.R - means owner’s risk.

(L) Indicates that the loading and unloading must be done by consignors and consignees.

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basis such as .25 pie per maund per mile or it may be according to distance or weight on the telescopic (cumulative) principle. A Schedule Rate may be quoted in any of the following units of quantity: per maund, per ton, or per wagon. The following is an example of a telescopic Schedule Rate* varying according to distance.

For the first and up to 300 miles .380 pie per maund per mile.

For extra distance above 300 miles but not exceeding 700 miles to be added to the charge for 300 miles .130 pie per maund per mile.

For extra distance above 700 miles to be added to the charge for 700 miles .100 pie per maund per mile.

Schedule Rates are distinguished by numbers or letters in the Goods Tariff of the Railways.

Station-to-Station Rate.—A Station-to-Station rate is a special rate for the total distance between two specific points (Stations or Junctions).

Station-to-Station rates are as follows:—

- (a) Those between two stations on the same railway, i.e. "Local Station-to-Station Rates."
- (b) Those between a station on one Railway and a station on another railway.
- (c) Those between a junction and a station or between two junctions.

Special Rates or Station-to-Station rates are quoted for one or more of the following reasons:—

1. Recognition of market competition.
2. The efforts of some railways to secure advantage for some particular points.
3. To assist particular industries in marketing their produce.
4. Co-operation in building up a new industry.
5. Influence of large shippers in routing traffic.

Method of Quoting Rates for Oil-seeds.—Indian Railways while quoting rates on oil-seeds make use of all the three types of rates. For instance, the B.B. & C.I. Railway and the G.I.P. Railway charge Class Rate on groundnut and copra, Schedule Rates on other common seeds; and also quote Special or Station-to-Station rates for almost all kinds of oil-seeds. The Schedule Rate applicable to common seeds over the B.B. & C.I. and G.I.P., both of which serve the hinterland of Bombay, is the C/B/C/J†

*The example has been copied from the Goods Tariff, Part I, B. B. & C. I. Railway.

†According to C/B schedule the rate is chargeable at .333 pie per maund per mile for any distance, while according to the C/J schedule the rate is as follows:—

For the first and up to 150 miles .380 pie per maund per mile.

For extra distance above 150 miles but not exceeding 250 miles to be added to the charge for 150 miles. .333 " "

For extra distance above 250 miles but not exceeding 500 miles to be added to the charge for 250 miles. .200 " "

For extra distance above 500 miles but not exceeding 700 miles to be added to the charge for 500 miles. .100 " "

The above has been taken from the Goods Tariff, Part I, B. B. & C. I. Railway.

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Schedule Rate which is quoted on a basis lower than the max. Class Rate, viz., max. of class I, to which the oil-seeds belong.

The following table gives the classes into which oil-seeds fall and the max. Class Rates and Schedule Rates, where applicable.

Statement showing the Classification of Oil-seeds with max. and min. Class Rates and Schedule Rate.

Oil-seed.	Class.	Max. rate.	Min. rate.	Schedule rate.
1. Rapeseed	I	pie.	pie.	CB/CJ
2. Linseed				
3. Mustard seed		.38 per. md.	.100 per md.	
4. Cotton seed		per mile.	per mile.	
5. Groundnut	IV (W/300 B.G W/160 M.G or N.G 4) RR III OR II	.62 "	.166 "	nil.
6. Castor seed	I	.38 "	.100 "	CB/CJ
7. Poppy seed				
8. Niger seed				
9. Kardi seed				
10. Mowra seed	II	.42 "	.100 "	nil.
11. Copra (Coconut kernels)				

Charges of the Public against Railways.—It is frequently urged that the system on which rates are fixed is injurious to the interests of Indian industries. The charge is, that the rates are so framed as to encourage traffic to and from the ports at the expense of internal traffic. This means an encouragement to the exports of raw materials and the import of foreign goods to the detriment of the Indian industries, which often have to pay what are described as unfair rates both on their raw materials transported from other parts of India, and on their manufactured goods despatched to various markets. This point was so vehemently brought to the knowledge of the Railway Board, that in 1915 the Railway Board issued a circular to the railways pointing out that: "the establishment of industries cannot fail, directly or indirectly, to increase the business of the railways; and the administration of the railways have in their power to do much for the encouragement of the new industries by the quotation of favourable rates for the carriage of raw materials and of finished products."* The railways were asked to cooperate in making a special endeavour to do all that was possible for the encouragement of the Indian industries. This circular failed to achieve its object as the railway companies did not take up the matter with any earnestness, while the Railway Board left too much to the voluntary action of the railways and did not follow the circular with any directions for practical guidance.

That the railways in India had not changed their orthodox policy and had made the position extremely acute for the public was clear from the evidence given by the witnesses who appeared

*Report of the Indian Fiscal Commission (1921-22), p. 73.

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before the several Commissions and Committees appointed after 1915, which had something to do with railway rates and their effects on Indian industries.

Evidence before the Indian Industrial Commission.—The first Commission which had occasion to go into the question of railway rates and their effect on the Indian industries was the Indian Industrial Commission of 1916-1918. Several witnesses who gave evidence before the Commission said, that the Indian Railway rate-policy did not foster the development of industries in India, but on the other hand encouraged the flow of raw materials like oil-seeds out of India. We give below a few of the extracts from the evidence of some of the important witnesses:—

Mr. C. M. D'Souza, the proprietor of the Premier Oil Mills, Cawnpore, in his written evidence to the Commission, said: "The complaints are, mainly the want of uniformity in freight for internal distribution of raw materials, as well as finished products, and the preferential rates to and from the ports. My suggestion is that there should be a uniform telescopic tariff for each class of goods for the whole of India, based on mileage, and the raw materials (oil-seeds and bye-products, particularly oilcake) should be carried at the minimum possible rates."*

Mr. (now Rai Bahadur) Vikramjit Singh, Director of the United Provinces Chamber of Commerce, Cawnpore, in his evidence before the Commission, quoted a paragraph from the speech of Mr. A. H. Silver, the then Director of Industries, U.P., which he delivered at the sixth United Provinces Industrial Conference held at Cawnpore.

"The third respect in which we may, I think, fairly, ask the Government co-operation is the revision of the railway tariff with due regard to the possibilities of Indian industrial expansion, and this I regard as the most important of all. Have you ever realised that our railway tariffs are framed almost solely with a view of aiding the exporter of raw produce? Yet if one studies the complicated mass of printed matters designated, 'Railway Goods Tariff,' it will be found that practically all special rates are port rates, i.e. rates for the carrying of the produce from our rich valleys and plains in the interior to the sea-board, there to be exported and worked up by the industries of other lands."

Rao Bahadur D. V. Bhagwat of Shri Lakshmi Oil Mills, Ltd., Akola, Berar, while submitting his evidence before the Commission, said: "We are dissatisfied with the railway freights. One would naturally expect them to be, in respect of long distances, proportionally less for less mileage. But they are not so. Take for instance the grain rate from Pipariya (a station from which we bring seeds for our mill) a distance of 316 miles. The rate is as. 9 pies 5 per maund. But this is also the rate for 505 miles from Pipariya to Bombay. This is typical of numerous other cases. We have had several extraordinary cases of disparities in railway rates. Kirkee is a station 411 miles from Akola.

* *Indian Industrial Commission (1916-1918) Evidence, Vol. I, p. 215.*

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Poona the next station after Kirkee is 414 miles. Now 20 tons of oilcake sent to Kirkee are charged Rs. 399-8-0 while those sent to Poona are charged Rs. 172-11-9. We have this experience for we send oilcake to Poona and Kirkee every year. We are very much handicapped in our business owing to the high rate of grain. Our supplies are often drawn from Pipariya, Itarsi, Banapura, Harda and Chanda, all distant stations from Akola on the G.I.P. Railway. A favourable rate from these stations will be very helpful to us.”*

In his evidence, Mr. R. L. Sutaria of the Indian Cotton Oil Co., Ltd., said: “It goes without saying that present railway rates have been based with a view to encourage exports of produce. The rates, for instance, to a port like Bombay or Karachi from any interior point are comparatively cheaper than the rates *ceteris paribus* between two interior points. The rates on raw produce, again, are cheaper than those on manufactured articles. Add to these the various restrictions, as to long or short lead, wagon loads, carrying capacity, risk, etc., etc., and it will be easily seen how hot things are made by the railways for Indian industries. In India railways exist not for our industries, but for those in countries far far away.”†

Evidence before the Acworth Committee.—The Acworth Committee which sat in 1921 received evidence which was even stronger in words than that received by the Indian Industrial Commission of 1916-18. “The Railways are not worked in the interest of the public,” stated the Government of Madras. The United Provinces Government opined that the Railway Administration had not always used their powers in fixing rates for goods in the interests of Indian industries, and that, too much consideration had been given to the reduction of freight on imported goods and to the export of raw materials to the detriment of Indian Industries.”‡

Recommendations of the Indian Fiscal Commission.—The Indian Fiscal Commission which sat in 1921 received similar evidence. While writing the report they said: “We cannot do better than state our general agreement with the views of the Indian Industrial Commission on this question, and in particular, endorse the following of its recommendations:—

- (1) “The governing principle which, we think, should be followed in railway-rating, so far as it affects industries, is that internal traffic should be rated, as nearly as possible, on an equality with traffic of the same class and over similar distances to and from the ports.”

The acceptance of this principle would remove most of the existing complaints and would tend to have a beneficial effect on Indian industries.

- (2) “We think that railways should accept the principle which is followed in some other parts of the world, that a consignment travelling over more than one line should be charged a single sum based on the total distance.”

* *Indian Industrial Commission, Minutes of Evidence, Vol. II, p. 430.*

† *Ibid, Vol. IV, p. 294.*

‡ N. B. MEHTA, *The Indian Railway Rates and Regulations*, p. 160.

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If such a policy is feasible, we think that it would tend to remedy some of the existing disabilities under which internal traffic labours.

- (3) "We recognise with the Indian Industrial Commission the danger of a policy of individual concessions to industries and of treating railway rates as an indirect method of subsidy by the State. But we think that within the limitations laid down by the Industrial Commission it is not unreasonable that special rates should be granted for a term of years to new industries, and even to others, if they can make out a proper case for special treatment."^{*}

Although this work is not intended to be a treatise on railway rates and their effect on Indian industries, yet, we venture to take a few actual cases and see how far these inequalities complained of by the public exist in the case of principal oil-seeds even to this date, and how far they have been rounded off.

The accompanying statements give the railway rates for oil-seeds from the principal oil-seed markets in the hinterland of Bombay to the port of Bombay and certain inland industrial centres:—

Rates for Groundnuts (shelled and unshelled) from the markets of Latur, Barsi and Kolhapur to Bombay & Sholapur.

Name of the Market.	Distance to Bombay	Freight per maund (shelled)	Freight per maund (unshelled)	Distance to Sholapur	Freight per maund (shelled)	Freight per maund (unshelled)
	Miles	Rs. as. ps.	Rs. as. ps.	Miles	Rs. as. ps.	Rs. as. ps.
Barsi	256	0 10 0 (a)	0 10 9	71	0 4 5 (a)	0 4 7 (a)
Latur	319	0 12 11 (a)	0 13 8 (a)	134	0 7 4 (a)	0 7 6 (a)
Kolhapur	310	0 9 3 (b)	0 9 3 (b)	197	0 10 0 (c)	0 10 2 (d)

(a) At O.R. C/160† over Barsi Light Railway. & O. R. W/300 L over G. I. P. Ry.

(b) At O.R. over G. I. P. & M. and S. M. Railway.

(c) At O.R. W/160 L. over G.I.P. Railway and M. & S. M. Railway, and At O.R. C/160 over B. L. Rly.

(d) At O.R. W/160 L. over G.I.P., M. & S.M. and O.R. W/300 over B.L. Rly.

Rates for Cotton seed from the markets of Akola, Amraoti, Murtajapur, Wardha, Bhusawal to Bombay and Nagpur,

Name of the market	Distance to Bombay	Rate at O. R.	Rate O.R. W/400 L.	Distance to Nagpur.	Rate at O. R.
	Miles	Rs. as. ps.	Rs. as. ps.	Miles	Rs. as. ps.
Amraoti	419	0 9 0	0 6 9	114	0 4 2
Akola	363	0 9 0	0 6 9	158	0 5 5
Murtajapur	386	0 9 0	0 6 9	134	0 4 9
Wardha	472	0 9 0	0 6 9	49	0 2 7
Bhusawal	276	0 8 8	0 6 9	244	0 7 9

^{*} Indian Fiscal Commission, pp. 74, 75.

† C/followed by a figure indicates the min. weight in maunds per consignment to which the rate applies. C/160 means the rate applies to min. consignment of 160 maunds.

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Rates for oil-seeds (excluding groundnuts and copra) at R/R from the markets of Bina, Guna, Bhilsa, and Ujjain to Bombay, Delhi, Cawnpore, Agra and Allahabad.

Name of the Market	Distance to Bombay	Rate per maund	Distance to New Delhi	Rate per maund	Distance to Cawnpore	Rate per maund	Distance to Agra (Bellan Gunj)	Rate per maund	Distance to Allahabad via Naini	Rate per maund
	Miles	Rs. a. p.	Miles	Rs. a. p.	Miles	Rs. a. p.	Miles	Rs. a. p.	Miles	Rs. a. p.
Bina	607	0 13 10	351	0 10 11	233	0 7 6	232	0 7 5	342	0 10 4
Guna	681	0 14 8	425	0 12 1	307	0 9 6	306	0 9 6	416	0 11 7
Bhilsa	555	0 13 3	403	0 11 9	286	0 8 11	284	0 8 11	394	0 11 2
Ujjain	635	0 13 5	551	0 12 8	433	0 11 7	432	0 11 1	541	0 13 5

Rates for linseed and morra seed from markets of Barsi, Latur and Kolhapur to Bombay and Sholapur.

Name of the market	Distance to Bombay via Kurduwadi	Rate per maund	Distance to Sholapur	Rate per maund
	Miles	Rs. a. p.	Miles	Rs. a. p.
Barsi	256	0 9 0	71	0 4 1
Latur	319	0 11 9	134	0 6 10
Kolhapur	310	0 11 1	197	0 9 2

The above statements were prepared through the courtesy of the Chief Traffic Manager, G. I. P. Railway.

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*Statement showing the Rates for oil-seeds (excluding groundnut and copra) from the markets of Kotah, Neemuch, Nagda, and Ujjain, to Bombay, Agra & Delhi.**

Name of the Market	Distance to Bombay	Rate per maund	Distance to Agra	Rate per maund	Distance to Delhi	Rate per maund
	Miles	Rs. a. p.	Miles	Rs. a. p.	Miles	Rs. a. p.
Kotah ...	572	0 9 7	208	0 3 10	326	0 5 7
Neemuch ...	489	0 8 2	384	0 6 6	385	0 6 6
Nagda ...	432	0 7 4	347	0 5 3	465	0 7 10
Ujjain ...	466	0 8 0	381	0 6 5	499	0 8 3

Rates for oil-seeds (excluding groundnut and copra) from the markets of Patan, Harij, Deesa & Mehsana to Bombay, Bedi Bandar and Ahmedabad.

Name of the Market	Distance to Bombay	Rate per maund	Distance to Bedi Bandar	Rate per maund	Distance to Ahmedabad.	Rate per maund
	Miles	Rs. a. p.	Miles	Rs. a. p.	Miles	Rs. a. p.
Patan ...	377	0 11 7	272	0 7 9	68	0 3 5
Harij ...	389	0 11 11	284	0 7 9	80	3 9
Deesa ...	409	0 11 10	268	0 8 9	100	0 4 2
Mehsana ...	352	0 10 8	221	0 7 0	43	0 2 9

These rates include the toll charge of 2 pies and the terminal charge Re. 0-0-6 per maund. In the case of other rates they include the terminal charge of 6 pies per maund.

We give below statements showing distances from some important primary markets to the ports of Bombay and Karachi and the special railway rates for oil-seeds:—

Statement showing Special Rates for oil-seeds (excluding groundnut and copra) from certain inland industrial centres to Bombay and Karachi.

Name of the Inland Town	Distance to Bombay via B.B. and C.I. Rly.	Special rates for seeds per maund.
	Miles.	Rs. a. p.
Broach ..	202	0 5 3
Agra ..	780	0 11 2
Muttra ..	773	0 11 2
Delhi ..	862	0 11 2
Khandwa ..	567	0 11 3
Hathras City ..	799	0 10 5
Farukabad ..	906	0 11 2
Cawnpore ..	992	0 11 8
Bhattinda ..	983	0 14 2
Hapur—via Delhi and G.Z.B. ..	898	0 12 5
Meerut ..	904	0 12 4

* The above statements were prepared through the courtesy of the G. T. M., B.B. & C. I. Rlys.

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Name of the Inland Town.	Distance to Bombay via. G.I.P. Rly.	Rate per maund.
	Miles.	Rs. a. p.
Nagpur ..	520	0 8 5
Jubbulpore ..	616	0 9 0
Katni ..	673	0 12 10
Satna ..	734	0 11 2
Naini ..	840	0 10 7
Saugor ..	654	0 12 11
Jhansi ..	702	0 13 2
Banda ..	821	0 10 6
Kalpi ..	794	0 10 10
Cawnpore (central shed) ..	840	0 10 8
Agra Cantonment ..	835	0 10 3
Muttra ..	868	0 10 2
Amalner ..	296	0 11 4
		O.R. W|300 L.
New Delhi ..	957	0 11 2

Name of the Inland Town.	Distance to Karachi via. Kuchaman Road, Hyderabad (B.B. and C.I. and J. Railways.).	Rate per maund.
	Miles.	Rs. a. p.
Delhi ..	779	0 11 2
Bharatpur ..	747	0 11 8
Agra Fort ..	780	0 10 3
Muttra ..	768	0 10 2
Hathras City ..	794	0 10 5
Kasganj ..	833	0 12 2
Farukabad ..	901	0 11 2
Cawnpore ..	987	0 11 11
Hissar ..	819	0 11 2
Siwai Madhopur ..	711	0 12 10

The foregoing statements reveal two distinct tendencies of the Indian Railways in the framing of rates on oil-seeds.

1. Comparatively lower rates for oil-seeds going from the primary markets to the port towns than on seeds going from the primary markets to the inland industrial centres.

2. Almost the same freight on oil-seeds from certain railway junctions to the different port towns irrespective of the distance. This may be ascribed to the competition between the railways to attract traffic to their side, but it is interpreted to be due to the policy of the railways to offer lower rates for port towns with a view to encouraging the export of oil-seeds. Mr. S. C. Ghosh in his well-known treatise, "Monogram on Indian Railway Rates" writes:—

"Oil crushing mills have sprung up in several parts of India of which the most important are at the port towns and at places like Lahore and Cawnpore. The point is

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whether the following factors do or do not operate against the rapid growth of oil-milling industry of India:—

1. The flow of oil-seeds out of India encouraged by low export rates.
2. The railway rates for oil-seeds for crushing in the oil mills at places like Lahore and Cawnpore being on comparatively high basis due to short leads, the tendency is to discourage oil-milling at the oil-seed producing centres and to encourage export and milling of seeds at the ports.”*

Railway Rates Advisory Committee.—In response to a pressure brought by the public upon the Government regarding the disparities in railway rates the Government of India in the year 1926 constituted the Railway Rates Advisory Committee to investigate and make recommendations to Government on the following subjects:—

1. Complaints of undue preference.
2. Complaints that rates are unreasonable in themselves.
3. Complaints or disputes in respect of terminals.
4. The reasonableness or otherwise of any conditions as to the packing of articles specially liable to damage in transit or liable to cause damage to other merchandise.
5. Complaints in respect of conditions as to packing attached to a rate.
6. Complaints that railways do not fulfil their obligations to provide reasonable facilities under Section 42 (3) of the Indian Railways Act.

This Committee has been in existence now for the last eleven years and has investigated several cases brought by the public. However, it may be pointed out, that it is a purely an advisory body and the respective railways are not bound to go by its recommendations.

Before we close this chapter, may we refer to a recent move on the part of the Railway Administration in connection with the classification of goods and railway rates which is sure to have an effect on the Indian trade in general and the oil-seed trade in particular. Recently the Indian Railways Conference Association decided to form a Sub-Committee for examining the present rating conditions and particulars pertaining to the Calcutta group of Railways, with a view to suggesting out of their experience, general method of simplification and revision which could be followed by other railways or groups of railways. It is learnt that the Committee is already seriously considering all the questions relating to classification of goods and railway rates.

* S. C. GHOSH, *Monogram on Indian Railway Rates*, p. 410.

CHAPTER V

MARKETING OF OIL-SEEDS (*contd.*)

Terminal Markets

In the preceding chapter we have remarked that a large part of the oil-seeds dealt with on the primary markets finds its way to the terminal markets. Terminal markets are market centres situated at seaboard or on the national border from where the commodities pass out of the country. At these points inland trade ceases and foreign trade begins.

Chief Terminal Markets.—In India there are several terminal markets for oil-seeds. Among them, the names of Karachi, Bombay, Cochin, Madras and Calcutta, stand out prominent.

Karachi.—Karachi in the province of Sind is situated in latitude 24° 47' North and longitude 68° 58' East, and is the nearest port in India to Europe. It is connected by means of the North Western Railway to the Punjab, the North Western Frontier Province and Sind, for which it is the gate-way for foreign commerce. Although Karachi possesses large workshops and several well-equipped modern flour mills, it cannot be regarded as an industrial centre. It is of importance as the principal market and port of shipment for the surplus produce of the North Western India, and is a storage depôt for the manufactures of foreign produce which the hinterland requires in exchange for the raw products sent down. The principal exports of the port are wheat, cotton, barley, oil-seeds, wool, hides and skins, and animal bones; and the principal imports are, cotton and woollen goods, sugar, iron and steel, kerosene oil, coal and coke,* etc. The total value of the export and import trade at the port, including treasure, was Rs. 31,94,45,823 in 1934-35.†

Bombay.—The port of Bombay, which is situated on an island of the same name in latitude 18° 55' North, longitude 72° 54' East, owes its importance to its geographical position and its magnificent natural harbour. As is well known, the port has grown from a small fishing town to the premier port and industrial town of India. Bombay is connected with Gujerat and Northern India by the B.B. & C.I. Rly.; with Deccan, Central India, and the Gangetic plain by the G. I. P. Railway; with Calcutta by the G. I. P. and B. N. Railways; and with Madras by the G. I. P. and M. & S. M. Railways.

The port has railway connection right up to the docks, so that goods meant for direct export can be taken right up to the docks. There is even railway connection between Sewri Cotton and Grain Depôt and the docks. The cotton trade has

* *Handbook of Commercial Information for India*, 3rd Edn., p. 50.

† *Annual Statements of the Sea-Borne Trade of British India with British Empire and Foreign Countries*, Vol. II.

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now been transferred from Colaba to Sewri where the Port Trust have provided the largest and the best equipped depôt of its kind in the world. About three million bales of cotton can be accommodated; and the depôt with its fire-proof concrete godowns fitted with automatic fire-sprinklers covers an area of nearly 500,000 square yards.*

Of the raw materials brought down to the port for export, by far the most important is cotton, the other principal items being grain and seeds, manganese, hides and skins; while the chief imports are, cotton manufactures, kerosene oil, hardware, metals, machinery, sugar and timber. The total value of the export and import trade, including treasure, was Rs. 1,44,55,79,894 in 1934-35.†

Cochin.—Cochin situated about 90 miles south of Calicut, is the most important harbour between Bombay and Colombo, and in the Madras Presidency the value of its trade is only exceeded by that of Madras and Tuticorin. Cochin is nearly 300 miles nearer to Aden than Bombay and over 300 miles nearer to Durban. The system of backwaters running parallel to the coast affords cheap transport. The exports from Cochin consist chiefly of coir, copra, coconuts, oil, tea, rubber, and groundnut. The total value of the trade, export and import, at the port in 1934-35 was Rs. 5,81,01,930.†

Madras.—The port of Madras is connected with the broad gauge system of the M. & S. M. Rly., on one side and the metre gauge system of the South Indian Railway on the other. The port is an outlet for the products of the Madras Presidency, Hyderabad and even certain parts of the Mysore State. The present harbour has been formed by two concrete walls projecting into the sea so as to enclose a space of 200 acres with an entrance from the north-east within which as many as 15 vessels drawing upto 30 feet can be accommodated. The chief exports from the port are oil-seeds, particularly groundnuts, leather, raw cotton, grain, pulses, tea, coffee, cotton manufactures, coir, Bimblipatam jute and spices. The chief imports into the port are cotton manufactures, metal ores, cotton twist, and yarn, railway plant and rolling stock, machinery and mill work, sugar, spices, oils, hardware and apparel. The total value of the import and export trade at the port was Rs. 22,24,33,534 in 1934-35.†

Calcutta.—Calcutta situated in latitude 22° 33' North, longitude 88° 21' East on the river Hoogli is the premier city of India and was until 1911 the Imperial Capital of India. The port serves the great jute, tea and coal industries, the wheat and seed traffic of Bihar and the United Provinces; and generally the agricultural area tapped by the main lines of the East Indian, Bengal Nagpur, and Eastern Bengal Railways and by the numerous waterways connecting the delta with the interior of Bengal and Assam. The chief exports through this port are

* C. W. E. COTTON, *Handbook of Commercial Information for India*, p. 54.

† *Annual Statements of the Sea-Borne Trade of British India with British Empire and Foreign Countries*, Vol. II.

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coal, jute, raw and manufactured, oil-seeds, wheat, hides and skins, etc., and the chief imports being salt, iron and steel goods, sugar, timber, cotton goods and metals. The total value of the import and export trade at the port was Rs. 94,60,68,809 in 1934-35.

Shipping Points.—In addition to the chief terminal markets described above there are terminal markets of comparatively lesser importance. Mention may be made of the several Kathiawar ports, Marmagaoa, Calicut on the West coast, Tuticorn on the South and Cuddalore, Cocanada, and Vizagapatam on the East coast. It may be mentioned that some of these markets are not terminal markets in the true sense of the word. They are simply points through which produce of the land is shipped. They may, therefore, be called Shipping Points. The following statement gives an idea of the total import and export trade at these shipping points:—

Statement showing the total value of the Export and Import Trade at the following ports [in (000) of rupees.]

Name	Imports	Exports.	Total
Kathiawar Ports*	2,53,46	2,79,87	5,33,32
Calicut	68,08	1,60,20	2,28,28
Tuticorin	1,11,72	2,80,13	3,91,85
Cuddalore	50,63	96,46	1,47,09
Cocanada	30,95	2,11,80	2,42,75
Vizagapatam	18,10	67,31	85,41

After having described the principal terminal markets, it will be in the fitness of things if we were to see the comparative importance of different terminal markets, as far as the oilseed trade is concerned. This we do by giving a statement showing the exports of oil-seeds from the principal terminal markets.

Statement showing the Exports of Oil-seeds through principal ports in (000) tons.

	Karachi	Bombay	Madras	Calcutta	Rangoon
1920-21	179	232	44	111	5
1921-22	132	249	117	125	3
1922-23	259	470	100	164	1
1923-24	298	427	89	253	1
1924-25	237	507	142	219	†
1925-26	160	513	161	169	1
1926-27	97	250	166	125	†
1927-28	80	480	253	149	1
1928-29	75	531	341	86	1
1929-30	45	345	291	180	†
1930-31	32	341	212	154	†
1931-32	54	310	241	87	†
1932-33	112	177	114	51	†
1933-34	72	342	160	189	1
1934-35	37	238	151	105	†

Sources:—1 Annual Statements of the Sea-Borne Trade of British India with the British Empire and Foreign Countries, Vols. I and II.

2 Kathiawar Trade Statistics. (Government of India Publication).

*The Kathiawar ports are Okha, Porbandar, Veraval, Bhavnagar, Nawanagar, Jafarabad, etc. The figures for the Kathiawar Ports are for the year 1936-37, whereas those for the other ports are for the year 1934-35.

†Shows that exports were less than 1,000 tons.

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Diversion of the Trade from Bombay.—The above statement shows the unassailing position of the port of Bombay, in matters of oilseed exports. However, the statement sounds a note of pessimism as far as the future of Bombay as a port of export for oil-seeds is concerned. The statement shows the gradual fall in the exports of oil-seeds through the premier port of India. This has been ascribed to the general trade depression resulting in the low exports of oil-seeds in line with other agricultural commodities, and also to the competition of several competitive ports which have cropped up on the west coast of India in close proximity to Bombay. Mention may be made of Bedi Bandar, Okha, Porbandar, Bhavnagar, Marmagao, etc. Bedi Bandar is a port of the Jamnagar State, whereas Okha and Dwarka belong to the Baroda State. Marmagão is a Portuguese port. Of these the port of Okha, because of its nearness to the two important Seed Areas in the hinterland of Bombay and also because of the sympathetic Government of the Baroda State, which is keen to develop its ports, is daily coming into importance as an important oilseed-exporting port. The Government of Baroda is trying to offer all sorts of facilities to the shippers of seeds, and it is hoped that Okha will very shortly begin to compete with Bombay in matters of oilseed export, unless some measures are adopted to attract the trade to the port of Bombay.

We give below a statement to show the exports of oil-seeds from the Kathiawar ports. The statement shows clearly how the export trade of Kathiawar ports has increased during the last several years.

Statement showing the Ex ports of Oil-seeds from the Kathiawar Ports.

Year	Quantity (tons)	Value (Rs.)
1930-1931	...	*
1931-1932	23,942	33,24,710
1932-1933	15,585	20,19,032
1933-1934	37,429	38,85,967
1934-1935	42,255	43,32,316
1935-1936	65,289	1,04,62,593
1936-1937	54,601	85,89,875

During the course of our investigation we came across a series of letters addressed by the Director of Industries, Baroda, to the seed traders at the markets of Patan, Mehsana, Harij, etc., bringing home to them the advantages of shipping seeds through the port of Okha. We learnt that the State of Jamnagar was also carrying on a similar propaganda. We take the liberty of reproducing one of these circular letters issued by the Director of Industries, Baroda State, which fell into our hands during the course of our investigation.

*Figures not available.

Source :—Kathiawar Trade Statistics (Government of India Publication).

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Baroda_____.

Messrs._____

Dear Sirs,

I send you herewith a comparative statement of railway freight showing that export of seeds and grains through our port is profitable. Besides the saving in railway freight, the goods meant for export will be warehoused free of charge for one month, and a nominal rent of Rs. 0-0-6 per ton per week or a part of a week or Rs. 0-0-0½ pie per ton cft.—whichever is greater (40cft. = 1 ton) is charged for the subsequent period. The wharfage on this class of goods will be Rs. 0-0-6 per Bombay maund.

The freight from Okha to Europe will be the same as that from Bombay or Karachi; and arrangements for engaging freight may be made through Messrs. Lionel, Edwards Ltd., or Messrs. Killick Nixon & Co., Ltd., or the Agents of other outgoing steamers. The freight rate from Okha to Bombay is Rs. 12|8- per ton, but I am trying to get the lowest possible rate. But, as it is, the difference between direct rail despatches and *via* Okha by sea will be considerably lower in the latter case.

I hope you will give this matter your earnest consideration and use our port for export both to foreign parts and to Calcutta.

In case of difficulty this Department will be prepared to give all reasonable assistance.

(Sd.)_____

Director of Commerce and Industries..

The following statement was found as an accompaniment to the letter reproduced above:—

Railway rates per maund for grain and seeds

From	to	Okha	to	Bombay.
		Rs. a. p.		Rs. a. p.
Mehsana	..	0 7 11.		0 10 2
Sidhpur	..	0 8 6		0 10 7
Patan	..	0 8 7		0 11 2
Limbdi	..	0 7 9		0 10 8
Dhinoj	..	0 8 2		0 10 9
Harij	..	0 8 8		0 11 6
Kadi	..	0 7 9		0 11 3

Representation by the Indian Merchants' Chamber.—The fall in the export trade of Bombay brought about by the competition of the Kathiawar ports has been a source of concern to the well-wishers of Bombay for some years past, so much so that several organisations of merchants have addressed petitions to the Government to devise means to make the port of Bombay more attractive by lowering down certain port expenses. In the year 1928, the Secretary to the Indian Merchants' Chamber, Bombay, addressed a letter to the Secretary, General Department, Government of Bombay, detailing the reasons for the diversion of trade from the port of Bombay to the Kathiawar

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ports, and suggesting means of attracting the same to the port of Bombay. The communication ascribed the diversion of trade from Bombay to the Kathiawar ports to the following causes:—

- (1) Heavy handling and other incidental charges due to the costliness of Bombay.
- (2) Heavy Port Trust charges.
- (3) Heavy Municipal Taxation.
- (4) Competition from other ports due to their geographical position and comparatively lower charges.
- (5) Means of questionable character adopted with regard to the development of other ports.

An extract from the said representation runs as follows:—

“The port of Bombay was once regarded with considerable favour by the commercial and industrial classes, and the bulk of the export and import trade not only of the Bombay Presidency but also of the adjoining territories passed through it. The facilities provided for handling goods and the organised trade markets in the city made Bombay a convenient port to the business community for the carriage of goods to and from various parts of the world. The port, however, has lost ground in recent years partly on account of (1) its costliness, and partly on account of (2) the growing competition of other ports enjoying various advantages.”

“During the course of the last fifteen years the cost of living in Bombay has increased due to a variety of causes. This affects adversely the course of trade according to the well-known maxim: ‘*the trade follows the cheaper channels.*’ Apart from the heavy Port Trust charges on various commercial commodities, the Municipal taxes, handling charges, and other incidental expenses bear heavily on the export trade of Bombay.”

Below is a comparative statement of the handling and other charges for oil-seeds at various ports:—

Charges for seeds per ton of 20 cwt.s.

	Bombay	Karachi	Calcutta	Madras	Bedi-Bandar
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Dock charges.	1 2 0	1 4 0	0 8 0	0 8 0	nominal
Loading and unloading.	0 2 0	—	0 10 0 (river dues)	—	—
Railway freight.	0 2 6	—	—	—	—

Representation of the Seed Traders' Association.—In the year 1934, the Seed Traders' Association addressed a similar communication to the Government of Bombay and said: “Since 1920 the export trade in seeds continues to hold its own but Bombay has not only been unable to retain her share in its expansion, but on

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the contrary is steadily giving way to Madras, Marmagao and some of the Kathiawar ports...." "Government are no doubt aware of the repeated complaints of the commercial community—both Indian and European—about the successive increases and surcharges registered in the port charges of Bombay since 1920. My Committee submit, with great emphasis, that the burden of the Bombay Port Trust Charges in general, and on the seed and grain trade in particular, has been so heavy that it is seeking new outlets in more economic channels such as the Kathiawar ports and Marmagao, where in addition to low port charges, merchants, it is reported, get free warehousing accommodation, or at nominal rent, financial assistance in the shape of loans at very low rates of interest, and benefit of minimum railway freights on the Kathiawar State Railways." The Seed Traders' Association ascribed the diversion of the oilseed trade of Bombay to Kathiawar ports also to heavy Municipal fee on each godown for storing oil-seeds and to the heavy railway freight on seeds charged by the B.B. & C.I. Rly., and the G. I. P. Rly., which in these days of catastrophic fall in prices works out about 25% to 30% of the value of seeds.

CHAPTER VI

MARKETING OF OIL-SEEDS (*contd.*)

The Bombay Oilseed Market

After having established the position of Bombay as the premier terminal market for seeds in India, we proceed to make a comprehensive study of the same in this chapter.

Location.—The Bombay oilseed market is located in a quarter of the city called “Dana Bunder.” The chief reason for its location there seems to be the situation of the place near the Masjid Bunder railway station, where the godowns of the Bombay Port Trust and the offices of the two important commercial organisations looking after the interests of the oilseed trade are situated. Some years ago when the Colaba Cotton Green was shifted to Sewri, the Bombay Port Trust suggested the idea of shifting the oilseed and grain market as well to that place, but the merchants objected to it on the ground that it would be far from the town proper and would be a source of great inconvenience to the merchants and the brokers.

A wing of the oilseed market is also situated at Kalbadevi. The reason for the situation of this wing of the market at Kalbadevi is the situation of the office there of the Marwari Chamber of Commerce, Ltd., which controls the transactions done in that part of the market.

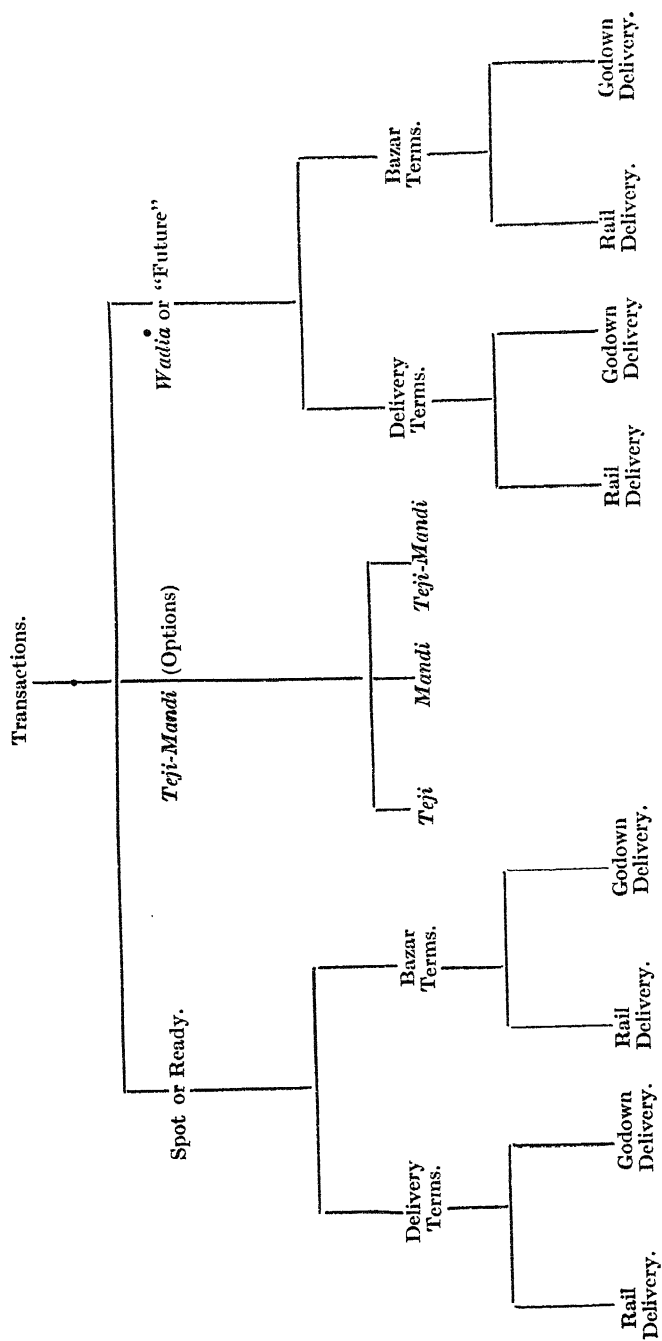
Time for Transactions.—Although transactions in seeds can take place at any time of the day, yet the market remains open every day from 11 a.m. to 5 p.m. when merchants, buyers and sellers, meet at the *naka*, as the corner of the oilseed market is termed among the seed merchants. Exporters like Ralli Bros., Anandilal Poddar & Co., Kilachand Devchand & Co., Ltd., Birla Bros., etc., have also their offices at the *naka*, and their men are always present there during the scheduled time of the market.

Transactions through Brokers only.—All transactions for the purchase and sale of seeds are done through brokers who are required to pass contract notes*, after having completed the contracts.

Different Types of Transactions.—Transactions in the Bombay oilseed market are of three types. First, those which are for the sale of ready goods, or goods to arrive shortly, and are called “spot” or “ready” transactions. Secondly, those which are for the delivery of goods in the future and are called *waida* or “future” transactions. Both these types of transactions are based upon what are commonly called “Delivery Terms” and “Bazar Terms.” There are still other types of transactions in the Bombay oilseed market. They are known as *teji-mandi* transactions. These transactions

* See Appendix B. Form No. 2.

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are similar to the "put" and "call" options on the London Stock Exchange.

Difference between Delivery Terms and Bazar Terms.

Question arises as to what is the difference between the Delivery Terms, and Bazar Terms transactions? A Delivery Terms transaction differs from a Bazar Terms transaction in the following respects:—

I. *Delivery.* Under Delivery Terms, sellers are required to send the goods to the buyers' godowns or to tender railway receipts. In either case the sellers are required to attend the buyers' godown for ascertaining the weight and settling the quality and refraction of goods. Under the Bazar Terms, buyers take delivery at the sellers' godowns and the weight, quality and refraction are ascertained and settled by the buyers at the sellers' godowns.

II. *Price.* Under Delivery Terms the price is for net weight delivered, excluding bagging, while under Bazar Terms, the price is for the gross weight, including bagging.

III. *Brokerage.* Under Delivery Terms, it is the sellers who bear the brokerage, whereas it is the buyers under Bazar Terms.

IV. *System of drawing samples for admixture.* Under Delivery Terms the usual practice is to draw the sample from the bags by thrusting hands and drawing out the stuff, whereas under Bazar Terms the sample is drawn by thrusting an instrument known as *bamboo*.

V. *Cartage.* Under Delivery Terms, cartage at the rate of annas 12, and Re. 1¼/- per ton is payable within the "B" ward and outside the "B" ward respectively by the buyers when the goods are sent down by the sellers to the buyers' godowns, while under Bazar Terms, actual cartage is payable by the buyers.

VI. *Basis of admixture.* The basis of admixture in most of the articles is as under:—

Delivery Terms: 4% reciprocal.

Bazar Terms: 6% reciprocal.

It is clear from the above that the buyers of seeds under Bazar Terms labour under certain disadvantages. That is why the Bazar Terms are lower than the Delivery Terms. There is generally a difference of about 5%.

Although according to the rules of the Bombay Oilseed Market, ready as well as future transactions in seeds can be done on Delivery Terms and Bazar Terms basis, yet, really speaking, ready transactions entered into with a view to receive and give delivery of goods are done on Delivery Terms basis, while "future" or *waida* transactions are generally done on Bazar Terms basis.

This brings us to the general rules and conditions relating to transactions entered into under the Delivery Terms, which we take the liberty of reproducing below. We take this opportunity of making it clear that the following rules have

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been translated from the original Gujarati text of the Rules of the Grain Merchants' Association, Bombay.

General Terms and Conditions Concerning Delivery Terms, (Railway Delivery and Godown Delivery)* for Oil-seeds Agreed Upon Between the Grain Merchants' Association and the Buyers.

I. Advance of 90%.—Buyers shall pay 90% in advance in case of all seeds and grains (except cotton seed for which an advance of 75% shall be paid) against railway receipts duly endorsed in buyers' favour or the Delivery Receipts† from the buyers' godowns.

II. Weight, etc.—If sellers have received an advance as per clause No. I, weight shall be fixed upon the average weight of the sample bags consisting of 10% of the number of bags of each tender which shall be weighed in the presence of sellers.‡

II(a). If sellers have not received an advance of 90%, buyers shall be obliged to keep the whole tender intact and sellers shall have the option to have the whole lot weighed in their presence.

II(b). In the case of godown delivery, sellers shall endorse the godown Delivery Orders§ whether they desire the whole lot to be kept separate or 10% sample bags only. If a seller desires to weigh the whole lot, and if he has not taken 90% in advance in the case of all seeds and grain (except cotton seed in which case 75% is advanced) he will pay the expenses of weighment and stacking of the lot, and at the time of weighing such a lot two empty bags¶ of the lot shall be selected by the seller and two by the buyer and they will be placed on each scale and the buyer shall not ask for any allowance for tare. For lots of which the usual advance has not been received weighment of the 10% sample bags must take place within twenty-four hours of the arrival of the goods. Should the weighment of the whole lot be demanded, the weight should be ascertained, and settled within three days after delivery.

II(c). The sample for refraction and quality shall be drawn out of 10 bags only. If the advance has been received by sellers, these 10 bags shall be taken out of the sample bags

*The two terms practically mean the same, except that in the first case the sellers effect delivery by handing over the railway receipt of the goods to the buyers, whereas in the second case the delivery is complete after delivering the goods in the godowns of the buyers. The cartage has to be borne in both the cases by the buyers and not the sellers.

†Delivery Receipt is a receipt granted by the man in charge of the godown, stating that so much goods have been received from such and such a party. It is by handing over that Delivery Receipt that the seller is entitled to receive 90 p. c.

‡This means that in case 90 p. c. of the price has been paid by the buyers, they are not bound to keep the whole tender intact. They may sell the rest of the lot after keeping 10 p. c. of the tender or matters of weight, refraction, etc. However, in case the advance has not been paid the buyers cannot break the tender, for the sellers in that case have a right to have the whole tender weighed if they so please.

§Delivery Order seems to be a misnomer, for it is, in fact, a receiving order. It is an order on the godown keeper to receive so much quantity of goods from the seller. In the case of godown delivery 90 p. c. is to be paid on the second day, hence there is the desirability to state whether he (seller) would like the godown man to keep the goods separate.

¶This clause refers only to a case where there is a difference of opinion as regards bagging. Ordinarily, bagging is 2½ lbs, but in case of dispute, 4 bags (2 selected by buyers and 2 by sellers) can be weighed and the average weight will be the tare.

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consisting of 10% of the number of bags of each tender. If the advance of 90% has not been received by the sellers for the goods tendered on Railway Delivery terms and/or Godown Delivery terms, and provided an endorsement has been made by the sellers as per clause II (b), the 10 sample bags must be taken out of the whole tender.

II(d). If buyers desire to have the whole tender weighed, which buyers are also entitled to demand, expenses connected with the weighment and stacking will have to be borne by them.

III. **Marks on Bags.**—In the case of Godown Delivery, the sellers shall mark all their bags with their private marks.*

IV. **Refraction.**—The basis of refraction agreed upon shall be:—

Linseed	}	4% reciprocal.
Rapeseed		
Sesame seed		
Castor seed.		
Groundnut		
Mowra seed		
Poppy seed		
Cotton seed		
Kardi seed		
Niger seed		

V. **Sample for Refraction.**—Sample for refraction in case of seed-contracts, except cotton seed and mowra seed, shall be made up out of 10 sample bags by arranging them one vertically and one horizontally and inserting the hand thrice.† In cotton seed, sample for refraction is to be made up from any six sample bags out of 10%. In mowra seed, as stipulated in the contract.

VI. If the sample for refraction is to be drawn by surveyors, buyer's surveyor shall draw the sample by inserting the hand five times and the seller's surveyor shall draw the sample by inserting the hand once.

VII. **Default in Delivery.**—In the case of contracts for "Ready Railway Receipts" such railway receipts shall be tendered by sellers within four days of the date of sale (unless time for the delivery of such R/R is mentioned in the contract) and in case of the failure of the sellers to do so, the buyers shall have the right to buy against the defaulting party or cancel the contract.

VII(a). In the case of a contract for "Ready Godown Delivery" sellers shall give delivery of the goods to the buyers

*It is for the sake of identification of goods. Such private marks are not necessary in case of Railway Delivery, as the bags bear the railway mark.

†The practice seems to be to arrange the sample bags in such a way that one bag stands vertically whereas the other horizontally. The vertical bags are opened from the top whereas the horizontal bags from the sides, to tap dirt from all corners. The hand is put in, turned once, twice and thrice, and then brought out the third time full with seeds. Such a process is repeated in the case of all the ten bags.

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buyers shall have the right to proceed on the first day after the due date of the contract, as explained in clause VII above.

VIII. Analysis.—In the case of analysis for small grains by means of a sieve, the handle of the sieve shall be turned for three minutes only.

IX. If the percentage of refraction in any goods contracted for exceeds the basis of 4%*, cleaning charges at the rate of Rs. 3|8|- per 100 bags shall be paid by the sellers.†

X. Cartage.—In the case of “Godown Delivery” buyers shall pay cartage at the rate of 12 annas per ton if the goods have been delivered at any godown within the “B” ward limits of the Bombay Municipality, and Re. 1-4-0 per ton, if the goods have been delivered at any godown outside the “B” ward limits of the Bombay Municipality up to the Grain Depot.‡

XI. Rejection and Re-offers.§—If a tender is rejected¶ sellers shall have the option to make a fresh tender during the time of the contract either by tendering fresh R/R, provided such R/R is tendered 9 days before the due date, or by giving godown delivery within the contract time. If the award is given after the due date of contract, sellers shall have the option to make a fresh tender in “Godown Delivery” within 5 days from the date of the buyers’ written intimation of rejection.

XI. (a). If a tender is rejected by the award of survey after due date of the contract and sellers fail to make a fresh tender as per clause XI, buyers can use their own discretion.**

XI. (b) In case a tender is rejected, whether before or after the due date, buyers shall not be entitled to recover handling charges (loading, unloading and stacking) nor godown rent, nor insurance charges.

XI. (c) Return of Advance.—In case a tender is rejected, sellers shall refund to buyers the advance received on such a tender within 5 days from the receipt of the buyers’ written intimation of rejection and goods shall be removed from the buyers’ godown†† within 5 days, after which buyers are entitled to a charge of as. 4 per bag per month by way of rent.

XII. Delivery to Third Party.—If in any contract there is a condition to deliver the goods to a specific party and the buyers should desire to pass on a R/R tendered by the sellers to a third party, they shall first obtain the sellers’ consent. If such consent

*That is to say the refraction is 4% over and above the contracted refraction, (i. e., 4%). If this be so a penalty of Rs. 3-8-0 for 100 bags is to be charged to the seller. In addition, the buyer has the option of either claiming the award or purchasing outright.

†Ordinarily the cleaning charges are borne by the buyers.

‡A portion of the Sewri Cotton Market is reserved as Grain Depot.

§Let us suppose that Mr. X has sold 50 tons of goods to Ralli Bros., for March delivery and the goods are rejected on the 15th of March. Mr. X can give a fresh R/R to Ralli Bros., up to 22nd March. Mr. X if he likes can give a godown delivery till the last day of the contract, viz., 31st March. However, if the award was given after the last day of delivery Mr. X can make a fresh tender up to 5th April, if he were intimated on the 1st April.

¶It may be rejected on account of 4 p. c. more refraction &c.

**It means that buyers may either purchase the same quality of goods as contracted and claim the difference or claim the award.

††They lie at the risk of the sellers.

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is not given by the sellers and the buyers all the same pass on the respective railway receipts to a third party, they are doing so at their own risk, sellers having the option to claim from their buyers railway weight, refraction, and quality as passed without allowance.

XIII. Settlement Transactions.*—In the case of Settlement Transactions or Contracts, differences shall be paid within 8 days after the due date.

XIV. Charity Fund.—Buyers shall pay the balance† due to sellers only on the latter producing the receipt or receipts for contribution to the *Delivery Charity Fund*.

XV. No special terms shall be arranged between buyers and sellers in contravention of the terms of the contract.

XVI. The buyers shall have the option to reject a tender on which a quality allowance of 4% or over has been awarded.

Having dealt with the general rules relating to business in oil-seeds on Delivery Terms, we come to the study of the rules of business attaching to *waida* business.

WAIDAS OR “FUTURES”

Another type of transactions that are common in the Bombay Oilseed Market are the *waida* transactions or the “futures.” “Future” is a technical term and means a transaction which calls for delivery at some future time. Contracts calling for the delivery of goods in future are fairly common in all lines of trade. In the case of certain agricultural products, notably grain and cotton, which have a world-wide market and the prices of which fluctuate under competitive conditions from day to day, nay from hour to hour, future trading has become very much prevalent.

Motive behind a “Future”.—Future transactions are entered into from different objects in view. One object of entering into a “future” transaction is the genuine intention of covering up future sale or purchase made. For instance, a shipper having sold seeds to an oilseed crusher on the Continent of Europe to be shipped by a certain month with a view to cover up the sale made, may enter into a future transaction. The second object of entering into a future transaction is to speculate in prices and to make profit if the calculations turn out right.

When a trader sells or purchases for future delivery, there is really no way of finding out whether he has entered into such a transaction with the object of speculating in prices or with the object of meeting his genuine trade obligations. Although the rules of all the Associations regulating trade in the Bombay Oilseed Market state, that all future transactions are with intent to receive and give delivery of goods, it appears that the number of transactions entered into with a view to meet genuine trade demand is comparatively small.

*Settlement transactions are contracts in which the parties purchase from each other.

†Balance of 10 p. c.

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Waida Transactions

Bazar Terms.

- (1) Cotton seed.
- (2) Castor seed
- (3) Groundnut
- (4) Rapeseed

Delivery Terms.

- (1) Linseed

Waida transactions like the spot transactions are done on two terms or *dharas*, the Bazar *dhara* or Bazar Terms and the Delivery *dhara* or Delivery Terms. Further, with the exception of linseed in which transactions are done on the Delivery Terms basis, transactions in *waidas* are done on Bazar Terms. We have had occasion to study the points of difference (see p. 112) between the two types of transactions, and as such, are not going over the same ground once again. Here it is our intention to give the general rules, regulations and the conditions attaching to *waida* business as done in the Bombay Oilseed Market.

General Rules Relating to *Waidas* under the Seeds Traders' Association*

General.—(1) With the exception of linseed, transactions in which are entered into on Delivery Terms, transactions in other oil-seeds are done on Bazar Terms. That is to say, the buyers have to weigh the goods in the godowns of the sellers and at the time of weighment the weight of the bags is included in the weight of the goods.

(2) The party weighing the goods at his own expense removes the goods from the seller's godown, but the goods to be weighed must be in the godowns within the municipal limits of "B" Ward, i.e., in godowns at Dongri Grain Depot, Carnac Bunder and those lying at and between Wadi Bunder and Carnac Bridge.

(3) Goods lying in godowns at other places cannot be given for weighment.

(4) The basis of refraction is 4% reciprocal. In case the refraction is more than 4% over and above that stipulated in the contract, the sellers have to pay Rs. 3|8|- per 100 bags by way of cleaning charges.

(5) The buyer can, at his option, reject the goods if the quality allowance in the goods weighed is 4% or more.

Time and Days for Transactions.—Transactions relating to this Association can be done only on days, except those declared as closed, and at such time as may be fixed by the Managing Committee of the Association.

*The rules have been selected from the rules of the Seeds Traders' Associations and have been properly arranged. Some have been purposely omitted as not being quite to the point, as far as the subject matter of this chapter is concerned.

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Contracts.—(1) All transactions entered into in accordance with the conditions, rules and regulations of this Association must be entered on the prescribed contract forms* of the Association and done through a registered broker of the Association. These contract forms can be purchased by the registered brokers from the Association.

(2) The broker having closed the transaction fills in the printed contract form and having first obtained the signature of the sellers thereon, obtains the signature of the buyers on the other half and delivers it back to the sellers.

(3) All transactions entered into between the brokers are tallied by them at the closing of the Bazar.

Recording of Rates and Settlement of Transactions.—(1) Two members of the merchant class in order, and one of the broker class in order, of the Managing Committee, in all three members, meet after 3 p.m. on the last working day of each English month and fix the rates and the rate of interest for the purpose of clearing, and recording the same in the books of the Association.

(2) All the standing transactions of all the *waidas* done in accordance with the rules of the Association are settled every month by means of clearing by receipts and payments between 2-30 p.m. and 5-30 p.m.† on the fourth day of each month, or if that be a holiday on the next opening day, in accordance with the rates recorded on the last day of every month in pursuance of the rules and regulations of this Association.

(3) The interest up to the last due date of the particular *waida* is also mutually paid at the rate of As. 8 per cent. per month.

(4) Transactions so settled at the time of clearing are not considered as settled but are taken as carried forward at the rates at which they are cleared on the last settlement day.

Payment by the Customer to his Broker.—A customer is expected to pay to his broker before 11 a.m. (S.T.) on the pay-day fixed for the purpose, all sums which the broker is liable to pay on behalf of his customer on account of the dealings of the current *waida*.

Default in Payment and Action by the Association.—(1) A broker may close the account of any customer who fails to make such payment either forthwith or any time thereafter in his discretion, during the time such customer is in default and any balance due on such closing shall be immediately payable by such customer to his broker.

A broker may, forthwith or at the earliest practicable date, close all open transactions on account of a customer who has died and the balance due on such closing shall be payable on the ensuing pay-day.

(2) No fresh transactions can be entered into with the defaulter.

*See Appendix B, Form No. 3.

†The Managing Committee may change the time.

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(3) The officer in charge of the Association on receiving written information of any member not paying or not having paid the amount on the pay-day shall, on the day following the pay-day or as soon as possible, call the meeting or special urgent meeting of the Managing Committee and such a meeting of the Managing Committee, if thought fit, declare the party failing to make such payment as defaulter, after hearing the party failing to make such payment, if he be present, or *ex parte*, if he be not present.

(4) The standing transactions of the party declared as defaulter shall be taken to have been equalised at the rate fixed by the Managing Committee for equalisation of his transactions at the time of his declaration as the defaulter.

(5) The creditor member having received his dividend, which may be less than his full due, cannot be said as having his debt fully satisfied, but such a creditor can recover the balance from the defaulter by means which may not be detrimental to the Association, or to the other members of the Association.

(6) The Managing Committee fixes a time for the settlement of the standing transactions, or may resolve upon rates at which the standing transactions be considered as settled in respect of a member whose name may be struck off the roll on account of his default.

Date and Clearing Rates of the Waida.—Taking into consideration the rates of the *waida* and of the ready goods, the Managing Committee or the Sub-Committee of the Association authorised by it, after 3 p.m. on the last day of the *waida* records the rates of the due date. Even if there be no quorum the rates must be recorded.

Delivery Orders.—(1) In respect of the standing transactions of a particular *waida* for different articles, the sellers from the 5th up to the date five days before the last day of the month of the *waida*, with a view to having the goods of the transaction weighed over, shall have the details filled up in the Delivery Order Form* of the Association and send the order to the buyer.

(2) All transfer entries of the standing transactions with a view to taking them as settled between the intermediate parties are made before the date fixed for the issue of the Delivery Orders.

(3) Every Order is issued for 100 candies, if the transaction be in candies, and for 25 tons, if the transaction be in tons, and at the rate fixed at the last clearing.

(4) Transfer of Delivery Orders can be made between members only, and the members can weigh or have weighed the goods of the order either by themselves or through their *muccadams* or agents.

(5) The sellers can have the order issued for such goods only as are in their own godown or in the godown of their agents or *muccadams*.

(6) The date of the maturity of the Delivery Order, that is the period for presenting it to the party to deliver the goods,

*See Appendix B. Form No. 4.

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is at least four clear working days, excluding Sundays and/or holidays, from the date of its issue. It (the D.O.) must be passed from party to party till 1 p.m. on the last day fixed for presenting it. The D.O. must reach the last buyer on the 5th day from the date of issue.

(7) Delivery Orders can be passed between 12 noon (S.T.) and 5 p.m. every day.

(8) Delivery Orders must be transferred by brokers between 4 and 5 p.m. (S.T.) in the rooms of the Association on the day preceding the day on which the order is due for presentation. If the broker be not present at the time to accept the Delivery Order, and if the order be handed over to the Association before 1 p.m. on the succeeding day, such order will be taken to have been accepted by such absent broker.

(9) On the working day immediately preceding the last day of the *waida*, the Bazar is closed at 3 p.m. and between 3 p.m. and 5 p.m. the brokers meet in the office room of the Association, and pass on the standing Delivery Orders. Two of the officers of the Association must be present at that time. If a broker is not present at that time and if any of the Orders is passed on to him, such an Order is taken to have been passed on to him, and then it cannot be passed further on.

(10) The party presenting the Delivery Order shall ask the party to whom (i.e., the party to give delivery) it may be presented, to put down the time and date of its presentation. If placing the time and date be refused, the member presenting the Order must at once give a written application to that effect to the office of the Association. On receipt of the application by the Association about refusal by the seller or his representative to put down the time and date of presentation, the seller is taken to have issued a bogus order.

(11) During the period the Delivery Order is maturing, if the party issuing the Order; for the convenience of presentation, extends the period, then in that case both the said parties shall attend the office of the Association, and after having got it noted down, can have the period extended and thereafter the said Order can be circulated further among the parties.

(12) After the Order is issued the party issuing it must, as soon as possible, pass it on to his purchaser, and thereafter it must be quickly passed from party to party.

(13) If the seller does not, within the period fixed for issuing the Orders, get issued the Orders in respect of the standing transactions of sales, his sales will be considered bogus and for the same he shall have to pay to the buyer an amount equal to 3% of the value of the goods, as fixed by the committee recording the rates.

(14) If the seller, without being in possession of the goods, gets a bogus Delivery Order issued and if he cannot produce the goods on the buyer's offering to weigh the goods, the buyer shall within 24 hours give a written application to the Association to that effect. The Association shall verify the facts and on

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verification in respect of such Order, the seller shall have to pay 6% i.e., double the penalty, in addition to the closing rates of the day.

Weighment of Goods.—The buyer is expected to take delivery of goods within three working days on which the bazar is not closed after the presentation of the Delivery Order. In the case of non-presentment of the Delivery Order, or in the case of non-weighment of the goods after the presentment of the Order, the member getting the Delivery Order is expected to intimate the same to the Association in writing with details. Twenty-four hours after this intimation the seller can, on buyer's account and risk, sell the goods in the bazar and claim the loss, if any, made by that sale. In case there is a gain by this transaction the seller is not expected to share it with the buyer.

TEJI-MANDI TRANSACTIONS

Besides the ordinary transactions in oil-seeds i.e., the actual sale or purchase, there are other transactions which are known as *teji-mandi* transactions. A *teji* transaction is a transaction with an option to buy and is entered into by a party when he expects a rise in prices beyond a certain limit, whereas a *mandi* transaction is a transaction carrying with it an option to sell and is entered into when a party expects a fall in prices below a certain point. The privilege to exercise an option to buy or sell is obtained by an operator from a broker by depositing what is called the 'premium money quoted by the broker. These transactions can be compared to the "Option" deals on the London Stock Exchange. Under these transactions an operator is in a position to limit his liability to the amount paid for securing the option, whereas his chances of profit are left almost unlimited. An illustration will make it clear. If A were to think that according to his information the price of linseed will rise beyond a certain point, say Rs. 8/- per cwt. before September, 1935, whereas the present price is Rs. 7/- per cwt. and the *teji* premium quoted by the brokers is $4\frac{1}{4}$ annas per cwt.; he enters into a *teji* transaction, i.e., he applies *teji* of $4\frac{1}{4}$ annas per cwt. to 500 cwt., that being the minimum amount for which *teji* or *mandi* is accepted. Thus A will be required to deposit a premium of Rs. 132|13/- with the broker. Suppose as anticipated by A the price of linseed rises to Rs. 7|12/- in the month of August, A can exercise his option to buy at Rs. 7-4-3 and make a profit of As. 7|9 per cwt. on 500 cwt. But, supposing the price of linseed took a downward turn and it fell to Rs. 6-8-0 per cwt., A would abandon his transaction and not exercise his option, and would thus lose only his option money and nothing more. Thus we see that though the actual fall in the price of linseed is As. 8 per cwt. A loses only $4\frac{1}{4}$ annas per cwt. which is the actual *teji* premium paid by him.

Under this system there are dealings which are called "Double Options" or *teji-mandi* dealings. Under these, an operator, on paying double the usual premium, gets the option either to buy or to sell a certain quantity of goods at a certain price on the next settlement day. To pursue the above example, supposing A has applied both *teji-mandi* on the payment of a premium of

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8½ annas per cwt. and the price of linseed goes down to Rs. 6-8-0 he would exercise his option of *mandi* and make a net profit of half an anna per cwt. deducting his *teji-mandi* premium of 8½ annas per cwt. But supposing the price of linseed remained stationary he would lose his premium. In order that A may make a profit on the deal it is necessary that the price of linseed must fluctuate heavily.

We have studied in the foregoing pages the general rules and conditions attaching to different types of transactions in oil-seeds. It will not be out of place at this stage to acquaint ourselves with the constitution of the commercial organisations under the auspices of which the different types of transactions are conducted.

COMMERCIAL ORGANISATIONS

Grain Merchants' Association.—This Association was founded in the year 1899 to promote and protect the interests of merchants, and to put the grain and seeds trade on a sound footing, and to receive and to decide references on matters of usage, and form a code of practice for simplifying and facilitating business in the grain and seeds trade, and to arbitrate between parties willing to refer to and to abide by the judgment of the Association.* It is an influential body having a large membership and its affairs are administered by a chairman, vice-chairman, two secretaries and a managing committee of 30 members.

The Seeds Traders' Association.—This Association* was founded in the year 1926. The objects of this Association are:—

(1) To advance unanimity and brotherhood among business-men interested in the raw produce of India, *viz.*, grain, cereals, wheat, oleaginous seeds, etc.

(2) To further and better the conduct of business of the business-men dealing in these articles, and to protect their interests of every nature, and endeavour and remove the defects and difficulties of every kind pertaining to the business.

(3) To tackle and constitutionally discuss all questions, which may be found injurious or obstructive to the business of merchants of these articles, and such other matters, and to place the same before proper persons, and/or to adopt proper means in consultation with other native or foreign associations, Government or others concerned.

(4) To act properly and constitutionally and handle all questions in which the merchants of this line have direct or indirect interests.

(5) To collect statistics and conditions, foreign and/or inland, of produce, import, export and such other industrial and economic information relating to this kind of trade with a view to spread the same amongst members.

(6) To arbitrate upon and decide the disputes relating to such trade arising between members.

*C. W. E. COTTON, *Handbook of Commercial Information, for India*. p. 43.

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(7) Generally, to do everything necessary for the facility of the members and to thoroughly investigate every subject, and to observe the aims of the Association.*

Membership.—Membership of this Association falls under two classes:—

(1) **Merchant class.**—It is open to all persons in the trade. The membership fee is Rs. 21/- and the entrance fee Rs. 51/-.

(2) **Broker class.**—It is meant for those who wish to do the brokerage business in seeds. Any person desirous of becoming a member of this class has to submit an application to the Board of Brokers of this Association. The Board of Brokers on being satisfied with the genuineness of the application forwards it to the Managing Committee which enlists him as a member. The annual subscription is Rs. 21/- and the entrance fee is Rs. 51/- A member of this class is also required to make a deposit of such amount or amounts as he may be required by the Association. This deposit carries interest. The members of this class are debarred from doing any up-country business relating to the Association.

The Marwari Chamber of Commerce, Ltd.—This Chamber is a pretty old institution and commands great respect among the Marwari merchants of the city. The chief objects of this Association are:—

(1) To promote and protect the interests of merchants carrying on business in Bombay, especially in seeds, including linseed, rapeseed, sesamum, wheat and other grains, and in *hundi*, *chithi* and other banking business, and in general, cotton, Indian piece-goods, gold and silver, etc., and to regulate their methods of doing business and remove all causes of friction between such merchants "*inter se*" and between them and their constituents.

(2) To prepare detailed information as regards the aforesaid commodities with a view to further, as much as possible, the interests of merchants dealing in the same, and to prescribe the principles of framing contracts in the aforesaid commodities with a view to eliminate temptations or the possibility of speculative manipulation.

Membership.—The number of members of this Association is limited to 500. Any person having a place of business in Bombay, carrying on, or *bona fide* intending to carry on, business in seeds, wheat, cotton, etc., may, by applying to the Chamber in the form prescribed by the Board, and on payment of the entrance and annual fee and agreeing to conform to the rules of the Association, be elected a member of the Chamber. The membership of this Chamber falls under two classes: *Ordinary Members* and *Associate Members*. The chief difference between an ordinary and an associate member is that an ordinary member can be appointed as a director and is also entitled to be present and to vote at general meetings of the Chamber. An associate member is not entitled to be appointed as a director,

* Constitution, Rules & Regulations of the Seeds Traders' Association.

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or to vote in the election of a director. Ordinary members of this Association are classed into the following electoral panels:—

- (1) *Shroffs.*
- (2) Commission Agents.
- (3) Brokers.
- (4) *Muccadams.*

Every member on being elected has to state into which panel he would like to be included.

MIDDLEMEN

Brokers and Their Functions.—It is a rule of the Bombay Oilseed Market that all transactions for the purchase and sale of seeds must be done through brokers. Brokers are persons who do brokerage business in grains and seed, etc. They are middlemen and deal only in contracts. They handle no commodities but simply act as intermediaries between the buyers and sellers. They have clients who entrust them with orders to purchase or sell seeds. Their stock-in-trade is the superior knowledge of the sellers and buyers. As a type they are most familiar, probably, as dealers in stocks and shares. Their fundamental function is to act as the sales agent for one party and the purchasing agent for the other. Their function ends when they have brought the buyer and the seller together; and they are entitled to receive their charge, called brokerage.

Brokers often take upon themselves the functions of buying outright or selling outright. It is easy for them to slip into other fields, if they have the equipments to handle goods. With the increase in the division of labour and specialisation in the function of distribution, there has been in recent years a large increase in the number of brokers handling agricultural products. This tendency has also been noticed in the Bombay Oilseed Market, where the number of brokers has registered an increase.

Certified Brokers.—With a view to organise trade in grains and oil-seeds and minimising the risks of entering into transactions through not genuine brokers, all commercial organisations working in the Bombay Market have adopted the system of registering brokers doing business under their rules. Such brokers are called Certified Brokers. These brokers, while doing brokerage business, have to observe the rules of their respective Associations.

Rules of the Grain Merchants' Association, which is the oldest association of grain merchants in Bombay, state that a person who wishes to do brokerage business in seeds and grains and intends to register himself as a certified broker shall apply to the Secretary, Grain Merchants' Association, on a special form meant for the purpose. The Managing Committee after having been satisfied as to the genuineness of the request will order the Secretary to issue a certificate to him.

Membership of Firms as Brokers.—Firms of brokers doing brokerage business have not only to take out certificates in the names of their principal partners, but also in the names of their servants whom they may authorise to do business on their

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behalf. On the separation of the partners doing brokerage business during the currency of the year and wishing to do brokerage business in any other manner, the old certificate automatically stands cancelled, and the separating partners have to apply for a fresh certificate. In case the firm breaks up in the middle of the year, the old certificate stands cancelled and a new certificate has to be issued.

The fees for issuing certificates which have to be paid by each broker or a firm of brokers are the following:—

	Rs.
(1) Annual fees for each broker dealing in grains and seeds	41
(2) Annual fees for each broker doing brokerage business in respect of godown hire ..	101
(3) Annual fees for each servant of the broker ..	21

Certificates are non-transferable and must be renewed every year after tendering the old and on payment of fresh fees.

Muccadams.—Another middleman, who figures largely in the Bombay oilseed trade, is the *muccadam*. A *muccadam* differs from a broker in many respects. In the first place, while the broker is a middleman who deals simply in prices and contracts and does not handle the goods at all, a *muccadam* not only acts as a purchasing and selling agent for his clients, but also possesses adequate machinery to handle goods purchased by him for his constituents. Moreover, while the broker, after he has brought the buyer and the seller together, and has passed a contract note between them, is entitled to his brokerage and has no responsibility regarding the completion of the contract, it is not so with the *muccadam*. The *muccadam* sells goods in the capacity of an agent of the principal, and is, therefore, responsible for the price of the goods sold by him. As a matter of fact, the owner of the seeds is not interested in knowing the name of the purchaser, but is interested in the price at which the sale has been effected, and looks to the *muccadam* for payment.

Functions of Muccadams.—*Muccadams* in the Bombay Oilseed Market are firms of great repute. They have connections with up-country merchants, as well as merchants in the city. The former consign them goods with a view to selling in the market. The latter entrust them with the sale, purchase, storage, and delivery of seeds. In short, *muccadams* in the Bombay Oilseed Market perform the functions of middlemen, agents and the warehouse companies. A *muccadam* can be compared to a “factor” in the English or American markets with this difference, that a factor sees that the goods consigned to him by his constituents are properly stored with some warehousing company, whereas a *muccadam* in the Bombay market has to own godowns or rent them in his own name and store the goods in such godowns, and is responsible for the safety of the goods. To perform his functions effectively he has to possess men, money and credit, for it is the invariable custom of the merchants to draw upon their *muccadams* after consigning seeds to them; and get the bills discounted at the up-country markets. Moreover, according to the bye-laws of the Associations working in the Bombay Oilseed

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Market, if a purchaser fails to pay the price of the goods on the second day, the *muccadam* must pay. Such a procedure would not be possible if the *muccadam* were a man of straw.

Keeping godowns and storing seeds on behalf of his constituents bring upon the *muccadam* the allied duty of looking to the delivery of goods. We have referred to this fact in an earlier part of this chapter, that in the case of a sale made under Delivery Terms, the seller is required to deliver the goods in the buyer's godown and the question of weight, quality and refraction is settled in the buyer's godown. Now, as the *muccadam* is storing goods in his own godown, he is expected to look to the question of delivery, weight, quality and refraction on behalf of his principal and settle the same amicably, in case a dispute regarding quality, refraction, etc. arises. Moreover, as he is responsible for the safety of the goods, he has to effect insurance on the goods entrusted to him by his constituents.

Muccadami.—*Muccadams* make a charge called *muccadami*. This charge includes the remuneration for the services rendered by the *muccadam* in connection with storage, delivery, etc., and does not include insurance, cartage, paid by him in getting the goods from the station in case they are received from up-country. Nor does it include the fees of the surveyors or arbitrators, in case such are to be paid. In short, all out-of-the-way charges are to be charged for from the owner of the seeds.

Muccadami is less than four annas per bag in case the goods are sold by delivery of the railway receipt, for in that case the *muccadam* is saved the trouble of storing them in his godown. The above *muccadami* is fixed on the assumption that the goods are to be sold at once or within a month, at the latest. In case the owner wishes to store the goods for more than a month, he is required to pay rent at one anna per bag for the whole month or part thereof.

TRADE INFORMATION

Another name for trade information is "Market News." It does not necessarily consist of the news regarding the supply and the demand of the commodity, but whatever has any effect upon the market price is "Trade Information." This means that any event, whether economic, social or political, which changes, or is likely to change, in any respect, the supply of, or demand for any commodity, is "Market News."

In no part of human activity is the element of information more important than economic, and especially in that most sensitive of all economic organisations, the market. There, the news is a power as it is the essence of price, which is the pivot and the axis of business. "A story is told of the elder Rothschild, who laid the foundation of the great fortune of that prosperous family. He is said to have been an eye-witness to the battle of Waterloo. Previously, he had arranged for a relay of horses to carry him with the quickest possible despatch from the post of his observation to the Channel and from the Channel to London. He watched the ebb and flow of the tide of the battle until the final moment came, until the final outcome became manifest.

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Then he started for London riding night and day until he reached his destination. For what purpose? To buy stocks on the Exchange. He carried momentous market news. While that news was his alone he had a monopoly, and on this brief monopoly, he laid the foundation of a vast fortune.”*

The world is not different to-day in its essential business organisation. It still pivots on price and the essence of price is market news. The significance of the telegraph, the telephone, the wireless, the newspaper, the postal system and the aeroplane is immeasurable, as in addition to their services, they carry news of great dynamic force in business. Local markets through them have been broadened into national and international markets, and local prices through them have become national and international prices.

So fundamentally important is trade information, that the leading commercial countries of the world maintain departments of agriculture and endeavour through them to make the essential crop news common property, so that the humblest producer may read in the papers the same facts as the cleverest broker.

United States Bureau of Crop Estimates.—The U. S. A. is a glaring example of how a Government department disseminates news about the staple crops of the country. The Bureau of Crop Estimates gathers statistics on some important staple crops and issues monthly reports. These reports cover the following points:—

- (a) Area in acres planted or sown.
- (b) Condition of the crops, examination being made monthly during the growing season, and
- (c) Yield per acre at harvest time.

“Beginning the first of each month a gathering volume of reports flow from 150,000 or more men conversant with the conditions throughout the productive areas towards the office of the Chief of the Bureau of Crop Estimates. They carry the condition as on the first of the month. The facts are tabulated, State by State, section by section. Then as the 8th of the month draws near, the doors of the rooms, where the material is kept are locked, door-keepers are stationed outside: even the telephone is disconnected. The statistical experts are marooned as if they had the plague.”

“The reports on these crops are usually ‘Loosed’ at two-thirty in the afternoon. As this time approaches, in the corridors are gathered fifteen or twenty newspaper reporters. With them are the operators of the telegraph system, whose systems stand ready at hand. One minute before the hour set, the doors are unlocked, and out step the Chief of the Bureau of Crop Estimates and the Secretary of Agriculture. The Chief holds in his hands 25 copies of the completed report. Some of these are placed on the table, printed side down. Folded copies are handed to the telegraph operators and they are unfolded. Each newspaper man is then permitted to place his hand on a copy ready to grab and run. As the hands of the clock reach the appointed hour

*C. S. DUNCAN, *Marketing: Its Problems and Methods*, p. 208.

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the Chief of the Bureau shouts "Go." Within less than five seconds every reporter has disappeared, every available telephone is in use and the telegraph wires are humming the message of that report. Within 15 or 20 seconds it is being read in Chicago, New York, New Orleans and thence spreads with speed of skilful fingers tapping telegraph instruments, public and private, over the Continent and across the seas."*

International Agricultural Institute, Rome.—Of late there has been a tendency towards the making of crop estimates the monopoly of not one country but of the world at large. For the great fundamental crops there is an international organisation called the International Agricultural Institute; and it has its seat in Rome. This Institute collects agricultural statistics on international basis. This Institute was founded by an American economist, David Lubin, and finally organized in 1909. The work of this Institute is carried on by moneys appropriated by the leading nations of the world, and information on the fundamental crops is broadcast monthly.

Private Organisations.—In addition to Government organisations there are private organisations which make it their business to collect information about the fundamental crops and supply the same to their constituents. The largest private news agency in the grain trade is Broomhals. It has official representatives in all the grain exchanges. There are more than 300 agents of this news agency scattered through the grain producing countries of the world.

That much about the supply. As regards the demand, it appears that although this side is as important as the supply, there are fewer governmental organisations which collect facts about demand and broadcast like the supply. The Bureau of Foreign and Domestic Commerce of the U.S.A. collects facts about foreign markets and gives them out to interested parties. The question of the supply of information regarding the demand is generally left to grain brokers, who make it their speciality to distribute news about the demand in grains.

Trade Information in India.—The Government of India, like other Governments, maintains a Department of Commercial Intelligence and Statistics, which collects information about the principal crops in various presidencies through the provincial agricultural departments and publishes the same in the shape of preliminary forecasts, a second estimate and a third or final estimate—a fuller and more precise in data than the first two forecasts. These forecasts are published on certain fixed dates in the Indian Trade Journal, which is a weekly organ of the Department of Commercial Intelligence.

The following are the dates on which the All-India forecasts for oil-seeds are issued in the Indian Trade Journal by the Department of Commercial Intelligence and Statistics:—

RAPESEED, LINSEED AND MUSTARD SEED

1st Forecast	January, 1.
2nd "	March, 15
Final Estimates	June, 1.

S. DUNCAN, *Marketing: Its Problems and Methods*, pp. 210-211.

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SESAMUM

1st Forecast	September, 1.
2nd "	October, 20.
Final Estimates	January, 15.
Supplementary	.....	April, 20.

GROUNDNUT

1st Forecast	.....	August, 20.
2nd "	.....	October, 20.
Final Estimates	February, 15.

CASTOR SEED

Forecast (only one forecast)	February, 20.
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These forecasts published in the "Indian Trade Journal" give, as exact an idea as possible, to the merchants as to the area sown under each seed, the progress of the crops and the final yield expected. The "Indian Trade Journal" also publishes figures of the movement of the seeds to the terminal markets of Bombay, Calcutta, Madras and Karachi, the average prices of those seeds prevailing in those markets and the figures of export from those ports. These figures are of very great importance to the oilseed traders.

Private Organisations in India.—The leading Export Houses like Messrs. Ralli Bros., Messrs. Volkart Bros., Messrs. Kilachand Devchand & Co., Ltd., etc., which maintain a net work of branches and agencies in India, obtain information about these crops through their agents. It is said that this information is more reliable than the Government figures and the Export Houses depend more upon this information than upon the information published by the Department of Commercial Intelligence and Statistics of the Government of India.

Bombay Chamber of Commerce.—This Chamber renders a very useful service to the traders of agricultural products in general, and of oil-seeds in particular, in the Bombay market. The Chamber, among other multifarious functions, has taken upon itself the function of publishing statistical returns of considerable interest to the dealers in seeds. Returns of interest to the oilseed traders issued by the Chamber are:—

- (1) Daily arrivals of cotton, wheat and oil-seeds by rail and sea in Bombay.
- (2) Daily trade returns (exports and imports).
- (3) Import manifest, issued twice a week.
- (4) Export manifest, issued twice a week.
- (5) Weekly returns showing the exports of wheat, cotton, and oil-seeds to Europe and other countries.
- (6) Statement showing the exports of wheat and seeds to Europe, issued monthly.
- (7) Half-yearly returns of the above.

The returns Nos. 1 and 2 are very important for the dealers in seeds, as they give a very clear idea of the daily arrivals of seeds in the Bombay market, as well as the daily exports. Hence an idea of the visible supply of the oil-seeds in the Bombay

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market can be obtained by the dealers. We attach herewith a copy of the returns of daily arrivals of seeds in the Bombay market. These returns are supplied at cost by the Bombay Chamber of Commerce to those who need them. Most of the oilseed traders are subscribers to these returns.

COMMODITY RECEIPTS

BOMBAY, August, 2.

Receipts of various commodities into Bombay up to noon on Thursday, August 1:—

Wheat	...	9,076	Cwts.
Linseed	...	875	"
Rape, Rai & Mustard seeds	...	110	"
Gingelly seed	...	277	"
Groundnuts	...	3,506	"
Poppy seed	...	461	"
Castor seed	...	351	"
Rice	...	33,303	"
Myrobalans	...	706	"
Mowra seed	...	132	"
Gram	...	587	"
Joowar	...	739	"
Barley	...	172	"
Bajree	...	1,360	"
Coal	...	988	Tons.

In addition to this statement which appears daily in the leading newspapers of the city, there appears a weekly return on every Saturday showing total receipts of different seeds in the Bombay market. This statement not only contains the returns for the week under review, but also the total receipts from the beginning of the current year and of the preceding year, so that the statement shows whether the receipts of commodities this year are more or less than the previous year. A copy of such a weekly return is reproduced below:—

BOMBAY, August, 2.

The following are the total receipts of wheat, seeds and produce into Bombay compared with same time last year:—

	...	Since 1st. Jan. 1935	Since 1st. Jan. 1934	Difference
Wheat	...	1,764,818	2,131,101	—366,283
Linseed	...	1,026,100	2,158,802	—1,132,702
Rape, Rai & Mustard	...	63,358	107,351	—43,993
Gingelly seed	...	87,290	269,034	—181,744
Poppy	...	10,109	17,563	—7,454
Groundnuts	...	1,287,149	2,358,196	—1,071,047
Castor	...	397,718	604,246	—206,528
Rice	...	3,314,305	4,368,601	—1,054,296
Myrobs.	...	372,360	459,745	—87,385
Cotton seed	...	1,322,299	1,055,651	+ 266,648
Mowra	...	7,694	16,768	—9,074
Gram	...	299,908	329,739	—29,831
Joowar	...	185,766	142,443	+ 43,323
Maize	...	1,939	1,902	+ 37
Barley	...	72,539	70,165	+ 2,374
Bajree	...	217,483	237,405	—19,922
Indian Sugar	...	419,851	11,573*	+ 408,066
Coal	...	289,485	255,419	+ 34,066

*Since 1st May 1934.

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MARKET PRICES AND MARKET QUOTATIONS

Market Prices.—Market prices of oil-seeds in the Bombay Oilseed Market, like any other market, are the resultant of the forces of demand and supply. It is practically impossible to ferret out all the influences that are at work upon the wholesale market prices of oil-seeds, for the prices are composite and the result of complex action. On the supply side, there are not only the forces of supply of seeds in India, but also the exportable surplus of other countries which are competing with India in matters of oilseed supply. On the demand side, there is not only the demand of one country, but of several countries which are anxious to have their requirements met. To this may be added the keen competition among the shippers. It is impossible to isolate all these factors and say for how much of the market price one factor is responsible.

One comes across a feeling among the traders in the market, that the forces of demand and supply are not being allowed to have their full and fair play by certain interested parties in the Bombay oilseed trade. Their allegation appears to be, that the prices are, many a time, manipulated. Such a misgiving may not be without a true foundation, and it is so not only here in the Bombay Oilseed Market, but also in other leading markets of the world. It was such a misgiving that led the Minnesota Union of American Society of Equity to pass the following very interesting resolution in 1913, which said: "that the doctrine of Demand and Supply is false and that prices are made artificially by the modern business combinations, and that, hence the only true basis upon which food products may be priced is on their source or the farm." This interesting resolution went on to say, "and we respectfully ask our professors at the College of Agriculture to give us new economy based on modern conditions as far as food products are concerned."*

Market Quotations.—The wholesale prices of oil-seeds in the Bombay Oilseed Market are represented in the quotations appearing in the daily newspapers. These quotations represent, in the first place, the trend of the market, and, secondly, they serve as the trading basis for ready as well as for future transactions. As these quotations are to serve as the basis for trading, it is very necessary that these quotations should represent, as accurately as possible, the true state of affairs. In other words, quotations should be based on actual trading transactions in a national market. It is, therefore, highly desirable that the agency reporting quotations to the newspapers should be impartial, reliable and experienced.

The usual method followed by the newspapers for obtaining quotations is from independent reporters who get the information by going about through the trade and talking with various dealers. It need hardly be emphasized, that accurate market reporting is a science. It requires a thorough knowledge not only of the methods of marketing, general statistics, of prices and crop movements, but also a most intimate and personal knowledge of the dealers themselves, qualifications

*C. S. DUNCAN, *Marketing: Its Problems and Methods*

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that can be acquired only by long experience and personal contact with the market. It is said, that an experienced reporter acquires a sixth sense that enables him to size up market conditions intuitively. He knows the personal interests of each dealer, and makes due allowance for such reports as are made to him. A thousand and one little incidents, remarks, attitudes, which would pass unnoticed by the uninitiated are full of meaning to him.

We give below a copy of the market report of the Bombay Oilseed Market as appearing in the columns of the *Times of India*, a leading daily of Bombay:—

COMMODITY MARKETS

Wheat And Seeds

BOMBAY, August 2.

Wheat White pici 70%: Rs. 4-1-6, railway terms, Ready; Wheat White Delhi: Rs. 4-8-3, railway terms, May 1936; Wheat White Delhi: Rs. 4-4-0 railway terms, September.

Liverpool Wheat Closing August 1: Oct. 63½d.; Dec. 62½d.; March 62½d.

Wheat, Chicago Closing, Aug. 1: Sept. \$0.93½; Dec. \$0.94¾; May \$0.96½.

Linseed Bold Brown: Rs. 6-10-0 railway terms, Ready; Linseed Bold Brown: Rs. 7-1-0 railway terms: May 1936; Linseed Bold Brown: Rs. 6-13-0 railway terms, September.

Argentine Linseed, Closing August 1: Hull c.i.f. £9-11-3 August.

Gingelly Seed Bold White 85%: Rs. 7-15-0 railway terms, Dec.-January.

Poppy Seed White: Rs. 15-4-0 railway terms, Ready.

Castor Seed Madras: Rs. 7-3-0 railway terms, Ready; Castor Seed Madras: Rs. 35-11-0 bazar terms, September; Castor Seed Madras: Rs. 6-10-6 bazar terms, May 1936 per cwt.

Groundnuts Bold: Rs. 8-0-6 railway terms, Ready; Groundnuts Bold Bombay delivery, Rs. 40-4-0, bazar terms, August; Groundnuts Bold Bombay delivery Rs. 6-12-0, bazar terms, February 1936 per cwt.; Groundnuts Madras: Bombay delivery, Rs. 8-2-6, railway terms, Ready; Groundnuts Marmagao: Madras delivery, Rs. 8-4-0 railway terms, Ready.

London Groundnuts Coromandel Closing August 1: £14-6-3 August.

In addition to the above daily report of the oilseed market, there appears a weekly report which gives an idea of the trend and the tone of the market. A copy of such a weekly report is also reproduced below:

WEEKLY WHEAT AND SEEDS REPORT

BOMBAY, August 2.

Wheat:—Indian Market was steady in sympathy with Liverpool market but later on remained dull.

Linseed:—Market was very steady throughout the week owing to rumour of drought in Argentine.

Groundnuts:—Market was dull in the beginning but later remained steady owing to some increase in Home prices. Present prices being in parity, some business is likely to be done.

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Castor Seed:—There is some inquiry. Home market is advancing owing to absence of sellers at present prices. The estimated stock in Bombay is not more than 8,000 tons and therefore rates are likely to go up.

As the prices of oil-seeds in the Bombay Oilseed market are also influenced by the prices in England, there also appears a report of the London Market. The prices are in so many pounds sterling per ton. This report also gives an idea of the tone of the market, and is of special interest to the Indian exporters. A copy of the report is given below:—

SEEDS

LONDON, August 1.

Linseed La Plata: Hull, C.I.F., ton, £9-11-3 August, paid.

Linseed Calcutta: London, C.I.F., ton, £11-17-6 Aug.-Sept. sellers.

Linseed Bombay: London C.I.F., ton, £12-2-6 Aug.-Sept. sellers.

Rapeseed Toria: (Hull-Contt.) C.I.F., ton, £13-10-10 Aug.-Sept. sellers.

Castor Seed Bombay: C.I.F., ton, £12-17-6 August-Sept. sellers.

Linseed Oil Naked: London, per cwt., 22/1½ Aug. sellers.

Linseed Oil Naked: London, per cwt. 21-10½ Jan.-April sellers.

WAREHOUSING IN THE BOMBAY MARKET

Warehousing is the problem of storing commodities in a suitable place for the time they are not required either for local consumption or for export. Oil-seeds are a semi-perishable commodity as they deteriorate in quality much earlier than other agricultural products, if they are not taken proper care of. So the problem of warehousing oil-seeds is of importance as it is connected not only with the general care of the seeds but also with the care of their quality.

Warehouses in the City.—While writing about the storage facilities for oil-seeds in the up-country markets we had occasion to remark, that the storage facilities were very meagre; but we defended it on the ground that oil-seeds being meant for the terminal markets did not require very elaborate warehousing. In Bombay warehouses in which grains and oil-seeds are stored are situated in that part of the city which extends from Masjid Bunder to Wadi Bunder and is known by the name of "Dana Bunder." Godowns are also located at Sewri, Princess Docks and Alexandra Docks. Warehouses at the Docks and Dana Bunder are proper warehouses, i.e., warehouses with four walls and roof over them, whereas those at Sewri, called the "Grain Depot," are sheds with galvanized iron roofs without walls. Average dimensions of warehouses at "Dana Bunder" are about 250 ft. by 100 ft. Those situated at the "Grain Depot" are several times larger than those at "Dana Bunder."

Ownership of Warehouses.—Warehouses at Dana Bunder are owned by private individuals or firms, whereas those at the docks and at the "Grain Depot" are owned by the Customs Department and the Bombay Port Trust respectively,

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Warehousing of seeds in Bombay is being done not on the same lines as in Western countries. The owner of a warehouse is a person or firm owning a space which he rents out to one who needs it. His function ends there and then. He is concerned only with the collection of rent, and repairs to the place, if necessary. The care of the product and its protection from damage and deterioration is the work of the owner of the seeds or his *muccadam* to whom he might have entrusted the goods for disposal. There is no regulation regarding the placing of bags in the warehouses so as to ensure proper sanitary conditions. A private warehouse is very dingy and its floor is more often than not *pucca*.

Absence of Grain Paper.—There is the complete absence of what is called "Grain Paper" or the Warehouse Receipt in the Bombay Oilseed Market. Such a state of affairs is extremely unsatisfactory, as it prevents the owners of seeds from taking advantage of bank credit. As it stands, in the Bombay market, the owner of seeds is financed by giving delivery of the key of the godown. This method of obtaining credit is not very satisfactory. In Western countries, where the warehousing of produce is the business of the warehouse-companies, credit is obtained by pledging Warehouse Receipts*, which are treated as negotiable instruments in the eye of the law.

MACHINERY FOR SETTLING DISPUTES

Surveyors and Arbitrators.—Disputes and differences of a variety of character are quite common in any grain market; and the Bombay Oilseed Market is no exception to them.

Commercial organisations which look after the interests of the trade have classified these disputes and have devised machinery to settle them amicably with the least cost possible. For instance, disputes relating to weight, bagging, quality and refraction in oil-seeds are treated by a special machinery called the "Surveyors", while all other disputes of a miscellaneous character are handled by a separate machinery, provided for the purpose, *viz.*, Arbitration.

At the beginning of the year each oilseed Association announces the names of firms whose representatives may be appointed as surveyors to settle disputes relating to oil-seeds, provided they are not in any way interested in the dispute, except as surveyors. There is no such list of the arbitrators. Anyone may be appointed as an arbitrator, provided he is not interested in the subject-matter of the dispute, otherwise than as an arbitrator.

We have stated in an earlier part of this chapter, that when the weighing of seeds is in progress, the buyer, provided he has paid 90% of the price of the goods, is entitled to set aside 10% bags for the purposes of arriving at weight, bagging, refraction and quality. It is from these 10% bags that the sample to ascertain quality and refraction is drawn according

* Appendix B. Form 5.

THE BOMBAY OILSEED MARKET

to the usages of the market; and subjected to a process of close analysis in the buyer's godown in the case of Delivery Terms, and in the seller's godown in the case of Bazar Terms. This analysis enables dirt, non-oleaginous matter, other oil-seeds, dead seeds, etc., to be separated. It is at this point that all the troubles regarding quality and refraction arise, for, more often than not, the merchants disagree among themselves.

If the merchants do not come to any settlement between themselves, the rules of the market allow them to appoint two surveyors, one by the seller and the other by the purchaser of goods, and inform the Association of the same and send the sealed sample at the office of the Association for survey. The Association informs the surveyors of their appointment and requests them to proceed with the survey early, as they are required to come to a decision and submit their award* within three weeks from the last date of their appointment.

In case the surveyors fail to arrive at a unanimous award, they are allowed, by the rules of the market, to appoint an umpire, who is required to give his award within ten days of his appointment. The award of the umpire is final and is binding on both the parties.

In case the award of the surveyors or of the umpire gives an option to the buyer to reject the goods under the rules of the Association or under the report of the surveyors or the umpire, and if the buyer wants to exercise his right of option, he is required within 24 hours of the receipt of the report of the surveyors or the umpire to inform the seller of his intention. The seller on receiving the intimation rejecting the goods must, within 48 hours, at his own expense, have the goods removed and return to the buyer the advance he may have received, together with an interest of 10 annas per cent. per month and insurance at the rate of 8 annas per 100 bags. In addition to this, the seller is also required to pay the expenses incurred by the buyer in connection with the weighing and carting of goods and the surveyor's fees. However, if the last day of the *waida* has not passed, the seller, with the consent of the buyer, can tender fresh goods in place of the rejected ones.

The surveyors charge a fee of Rs. 15/- each for surveying a sample under dispute, and each party is responsible for the payment of the fee to his surveyor.

Arbitrators.—In disputes of a general character, the rules of the Bombay Oilseed Market provide for a different machinery, *viz.*, Arbitration. The bye-laws of the Seeds Traders' Association state, that the Managing Committee of the Association shall, every year, appoint an Arbitration Board to decide and to dispose of disputes arising out of the dealings in trade of the members of the Association. Although there is no such provision in the bye-laws of the other two Associations for the appointment of an Arbitration Board in the beginning of the year, two

*For a copy of the Award see Appendix B. Form No. 6.

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arbitrators, out of the members, one by each of the parties, can be appointed when disputes arise.

The member who has a dispute is required to send in his application, embodying the details of the dispute and the name and residence of the opposite party, with a fee of Rs. 2/- to the Secretary of the Association. No application can be opened and considered unless the fee has been paid. The fact of the two parties seeking arbitration is brought to the knowledge of the Arbitration Board, which informs the plaintiff and the defendant of the date and time of the hearing of the application, and takes their signature on the notice sent to them. Both the plaintiff and the defendant have to be present on the date fixed for hearing the dispute, unless they are prevented from doing so by some unavoidable and unexpected circumstances. The absence of any one of the parties without any reason may compel the Board to fine him.

Both the parties have to abide by the decision of the Arbitration Board. However, one of the disputing parties can, if not satisfied with the decision of the Arbitration Board, appeal to the Managing Committee against the decision of the Arbitration Board, by making a payment of a fee of Rs. 5/-.* The Managing Committee, after the receipt of such an appeal, will inform both the parties of the date of hearing. The decision of the Managing Committee is final and binding on both the parties.

*In the case of the Marwari Chamber of Commerce, where the rules do not provide for the appointment of the Arbitration Board in the beginning of the year, and arbitrators are appointed only, when disputes arise and the parties seek arbitration, there is a provision for the appointment of an umpire or Sarpanch, to whom the case is referred in case of a difference among the arbitrators. His decision is final and binding. However, an appeal can be made against the decision of the arbitrators or the umpire on the payment of Rs. 50. The decision of the Managing Committee is final.

CHAPTER VII

EXPORTS OF OIL-SEEDS

General.—India is not only the largest producer of oil-seeds, but also occupies a very important position among the leading oilseed exporting countries of the world. The following figures which show the share of India in the world trade in oil-seeds speak for themselves.

Oil-seeds	*India's share in the world trade (1934-35)			
Mowra seed	100%
Cotton seed *	1%
Sesame seed	3%
Castor seed	98%
Rapeseed	36%
Groundnuts	29%
Linseed	13%
Poppy seed	75%
Niger seed	100%

The figures show that she holds a virtual monopoly in seeds like castor seed, poppy seed, mowra seed and niger seed and contributes a very large percentage to the world trade in other oil-seeds like linseed, groundnut and rapeseed.

The total value of the exports of oil-seeds, excluding oils and oilcake, from India during the post-War period was over 23 crores of rupees, a little less than that during the pre-War period. The years 1924-25 and 1925-26 saw a phenomenal rise in the exports of oil-seeds, but in 1926-27 and 1927-28 there was a fall, and since 1928-29 there has been a continuous fall in the exports, so much so that during the past few years the figures stood much below the pre-War average. This sharp decline in the exports is attributable to the general trade depression, greater use of oil seeds in the country and the coming in of several competing countries in the world markets.

Destination of Oil-seeds.—India's exports of oil-seeds are shared by several countries, chief among them being the United Kingdom, Belgium, the Netherlands, France, Germany, Italy and the U.S.A. Before the Great War, France was the largest customer as it imported seeds worth about 7 crores of rupees, representing about 30% of the total exports of oil-seeds from India. The United Kingdom came next and was followed by Belgium, Germany and Italy in order of importance. During the post-War years the position underwent a change. The United Kingdom occupied the first position, while the position of France became second. In the year 1932-33 the share of France was again larger than that of the United Kingdom; but since then the share of the United Kingdom in the oilseed exports of India has been steadily increasing.

It will not be out of place to see what competition is experienced by the Indian oil-seeds in foreign markets. The following tables in that connection are highly informative.

*Handbook of Commercial Information for India, p. 204.

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Table showing the Exports of Oil-seeds, Oils and Oilcakes with their values in Rs. (000)

Year.	Oil-seeds.		Oils.		Oilcakes.	
	Tons (000)	Rs. (000)	Gallons. (000)	Rs. (000)	Tons (000)	Rs. (000)
Pre-War average	1,443	24,16,40	4,026	66,09	140	1,06,37
War average	700	11,07,26	6,868	1,39,66	117	94,95
Post-War average	914	23,17,76	3,521	95,96	136	1,60,61
1924-25	1,316	32,75,38	1,332	41,03	195	2,20,00
1925-26	1,240	29,32,96	1,719	45,55	191	2,10,62
1926-27	831	18,85,16	1,320	31,35	236	2,52,76
1927-28	1,203	26,38,78	1,400	29,48	276	3,14,19
1928-29	1,323	29,28,96	1,590	37,54	328	3,84,18
1929-30	1,191	26,31,08	1,351	31,87	273	3,11,92
1930-31	1,033	17,68,58	1,141	24,52	254	2,08,05
1931-32	983	14,39,32	1,901	30,45	291	2,00,68
1932-33	727	11,16,53	2,444	38,27	287	1,96,51
1933-34	1,116	13,47,32	2,921	37,85	287	1,64,72
1934-35	675	10,54,10	2,173	29,93	347	1,96,99
1935-36	664	10,09,89	2,357	35,82	300	1,81,70
1936-37	1,146	18,25,83	2,910	44,56	336	2,26,93

Source :— Review of the Trade of India.

EXPORTS OF OIL-SEEDS

Table showing the share of the Principal Countries in the Exports of Indian Oil-seeds in Rs. (000)

Countries	Pre-War average	War average	Post-War average	1932-33	1933-34	1934-35	1935-36	1936-37
United Kingdom	...	5,67,83	6,34,83	8,28,61	1,23,86	3,23,35	3,46,73	2,56,74
Other parts of the British Empire	...	35,29	69,65	72,27	29,22	42,73	64,94	43,49
France	...	7,11,59	3,24,57	6,21,53	4,31,77	3,17,69	1,55,13	2,67,83
Belgium	...	4,44,19	25,29	2,87,03	25,49	33,53	20,00	23,29
Italy	...	1,12,18	64,84	1,94,33	1,73,71	1,46,80	83,01	48,45
Germany	...	3,45,51	17,57	1,46,30	1,07,16	1,52,46	89,40	1,31,13
Netherlands	1,56,96	1,50,63	1,39,95	1,62,46
Egypt	8,03	9,01	1,44
United States of America	42,03	1,43,86	1,08,97	54,43
								2,94
								27,56

Source:— Review of the Trade of India.

...Figures not available.

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Tables illustrating competition experienced by Indian Oil-seeds in certain foreign markets.

TABLE I

Imports of linseed into the U. K., France, Italy and Australia in (000) quintals.

Countries	1913	1914	1929	1930	1931	1932	1933	1934	1935	1936
United Kingdom.										
Total	2,844	2,233	3,437	3,683	2,526	1,870	2,615	2,771
Argentina	1,979	1,404	3,160	3,495	1,105	447	1,990	475
India	762	712	156	92	1,312	1,418	595	2,252
India's percentage	27%	32%	5%	3%	53%	76%	23%	82%
France.										
Total	2,154	1,905	2,663	2,262	2,260	2,366	2,584	2,893
Argentina	1,344	933	1,962	1,834	2,049	2,055	2,377	2,499
India	636	868	469	322	462	216	56	117
India's percentage	30%	45%	18%	14%	18%	9%	2%	4%
Italy.										
Total	500	533	613	686	750	645	...	...
Argentina	285	113	381	514	537	462	...	...
India and Ceylon	267	373	170	119	177	132	...	...
India's percentage	45%	70%	28%	17%	24%	20%	...	...
Australia.										
Total	222	159	168	197	198	382	361	345
Argentina	55	56	111	95	167	68	56
India	217	85	110	84	102	214	85	195
India's percentage	98%	53%	65%	43%	52%	56%	24%	57%

A Quintal = 220.46 lbs.

Source : Review of the Trade of India in 1936-37.

EXPORTS OF OIL-SEEDS

TABLE II
Imports of Rapeseed into the United Kingdom, Belgium, Italy and France in (000) quintals.

Countries	1913	1914	1929	1930	1931	1932	1933	1934	1935	1936
United Kingdom.										
Total	530	620	314	99	219	248	208	208	309	233
India	190	210	178	46	88	182	153	180	24	94
India's percent- age	36%	34%	57%	46%	40%	72%	73%	87%	8%	40%
Belgium.										
Total	94	...	39	38	39	42	55	42	54	44
Roumania	14	...	3	11	20	13	11	...	1	...
Argentina	3	...	7	...	...	...	1	2	19	1
India	67	...	16	21	3	17	32	24	4	23
India's percent- age	72%	...	41%	55%	8%	40%	58%	57%	7%	52%
Italy.										
Total	102	220	36	31	102	752	114	71	(a)	(a)
India	95	183	14	19	27	735	110	52	(a)	(a)
India's percent- age	93%	83%	47%	61%	26%	98%	96%	73%	(a)	(a)
France.										
Total	588	404	138	129	108	106	158	139	103	106
India	482	303	102	84	60	69	103	87	44	50
India's percent- age	80%	75%	74%	65%	56%	65%	65%	63%	43%	47%

Source:—Review of the Trade of India, 1936-37.

A quintal = 220.46 lbs.

(a) Figures not available.

TABLE III.
Imports of Sesamum Seed into France and Italy in (000) quintals.

Countries	1913	1914	1929	1930	1931	1932	1933	1934	1935	1936
France.										
Total Imports ...	278	261	52	33	14	13	5	8	22	19
India ...	228	251	14	...	...	1	...	...	...	...
India's percentage...	82%	96%	27%	...	...	8%	...	...	...	...
China ...	10	2	13	23	3	...	...	...	...	...
China's percentage...	4%	7%	25%	70%	20%	...	...	...	...	...
Italy.										
Total Imports ...	...	...	158	258	134	141	135	218	...	...
India's share ...	...	...	38	34	18	75	78	113	...	...
India's percentage...	...	...	24%	13%	13%	53%	38%	52%	...	...
China ...	...	...	114	217	94	3	24	55	...	...
China's percentage...	72%	84%	70%	29%	13%	25%

Source :—Review of the Trade of India, 1936-37.
...Figures not available.

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TABLE IV

Imports of Groundnut into France in (000) quintals.

Countries	1913	1914	1929	1930	1931	1932	1933	1934	1935	1936
Unshelled.										
Senegal	...	1,738	2,857	3,436	2,980	1,700	2,908	4,754	3,413	4,163
West Africa (Other parts)	...	466	168	286	518	449	363	...	...	...
India	...	325	32	46	41	17	7	...	...	...
Total	...	2,634	3,118	3,753	3,602	2,243	3,327	4,821	3,490	4,222
Corresponding total (Shelled)	...	1,976	2,338	2,814	2,702	1,682	2,405	3,616	2,617	3,166
Shelled.										
India	...	2,442	2,919	2,548	2,461	2,595	3,070	1,527	1,736	1,990
Senegal	35	65	21	62	50	384	587	1,052
Other countries	...	245	698	812	1,027	1,798	1,508	1,089	1,065	657
Total	...	2,687	3,652	3,425	3,509	4,455	4,628	3,000	3,388	3,699
Percentage of total supplied by India*	...	58%	49%	41%	40%	53%	43%	23%	29%	29%

Source :—Review of the Trade of India, 1936-37.

* These figures have been calculated on the basis of 100 tons unshelled = 75 tons shelled.

...Figures not available.

One Quintal = 220.46 lbs.

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The foregoing tables reveal that the Indian linseed has a serious competitor in Argentine linseed in the United Kingdom market as its imports have been gradually rising at the cost of the Indian product. In the year 1932 the share of the Indian linseed in the imports of the U.K. fell to 3% only. On August 20, 1932, the Ottawa Agreement was signed between the representatives of the Government of India and His Majesty's Government in the United Kingdom by which the United Kingdom agreed to give preference to the Indian linseed over linseed from Argentine. The result of the working of the Ottawa Agreement for the year showed that the share of India in the linseed imports of the United Kingdom rose from 3% in 1932 to 53% in 1933-34. The years that have followed have seen a gradual increase in the import of Indian linseed in Great Britain. On the other hand the share of Argentine has been falling.

Indian rapeseed has no formidable rival as far as Continental markets are concerned, the share of Argentine and Roumania being negligible.

China is a formidable rival of India in the Continental markets of France and Italy, as far as sesamum seed is concerned.

Senegal and other parts of the French West Africa are the principal competitors of India as far as the imports of groundnuts into France are concerned. China, which is also a large exporter of groundnuts, does not play any part in the French market. So far, groundnuts are allowed to be imported free into France, but if she were to levy an import duty on foreign groundnuts India's position in France would be considerably weakened.

Chief Exporters.—Chief shippers of oil-seeds from India are mostly firms of non-Indian origin which have their buying organisation spread over the length and breadth of the country. We mean firms like Ralli Bros., Volkart Bros., and Sassoons, etc., whose names are known all over the world. These firms are the principal shippers of seeds needed for the requirements of oil mills on the Continent. Next to these foreign exporters come the Indian exporters. The quantity of oil-seeds exported by the Indian exporters is very limited: almost negligible, when compared to the quantity of oil-seeds exported by the foreign export houses.

Foreign export houses not only have an advantage over the Indian exporters in buying organisation, but also have large capital and are thus able to get better terms from the ultimate buyers. "Seed crushers are the ultimate buyers of seeds but the transactions directly from shippers to crushers are exceptions. There is usually an intermediary, frequently there are many intermediaries. There is the broker, who does not divulge the name of his seller, nor his buyer, but makes out the contract in his own name as principal. This naturally makes the broker responsible for the carrying out of all the terms and conditions of the contract, although he is content with a brokerage of only $\frac{1}{2}$ %, which does not leave him any margin commensurate with the risk he assumes. He is not only

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responsible for the carrying out of the terms and conditions of the contract, but he also assumes responsibility for the solvency of his sellers and buyers. He often has to pay freight on the arrival of the steamer, make necessary custom house entries, and obtain ship's release of the goods. The adoption of such an irregular position has, we imagine, originated in the large sums of money necessary to keep mills provided with sufficient stocks of seeds. The English bankers do not in that respect grant the same facilities as the Continental banks grant to their customers, so that the English crushers have recourse to brokers. On the Continent, banks are very numerous and they finance the mills, so that the brokers do not run any risk beyond the fetching and carrying from sellers to buyers. When they have concluded a transaction, they give the name of the buyer to the seller and the latter exchange proper contracts. As soon as the contracts are signed by both the parties the broker is entitled to his brokerage. One of the most important functions of the broker, and probably one of the best reasons for his existence, is that he collects his offers from all the sellers and knows which of the crushers he can interest at a given time."*

Contracts of the Incorporated Oilseed Association, London.—Indian oil-seeds are sold to the English and the Continental buyers on the basis of the terms contained in the contracts of the Incorporated Oilseed Association, London. This Association was founded about 55 years ago with a view to organize and standardize the trade in oil-seeds. This Association is the oldest, and perhaps, the only institution whose contracts are respected and faithfully observed by the buyers, as well as the shippers of oil-seeds. The contracts of this Association are in use not only in the United Kingdom, but also on the Continent, and it has been asserted, with a fair amount of accuracy, that the Continental crushers accept these contracts and sign them without having understood the terms on which they deal. They have absolute faith in the impartiality and fairness of this Association, and have been for many years past willing to accept these contracts with their eyes shut. The contracts of the Incorporated Oilseed Association are numerous, because each variety of oil-seed is the object of a separate form. There are as many as 48 to 50 contract forms issued by this Association. These contracts are built upon the idea that shippers are middlemen between the growers and crushers and the contracts contain terms which are sometimes not quite in the interests of the Indian shippers of oil-seeds.

Sound Delivered and C.I.F. Terms.—The contracts of the Incorporated Oilseed Association are based on "*Sound Delivered*" terms and not on the C.I.F. basis. There is a difference between the "*Sound Delivered*" basis and "*Cost Insurance and Freight*" basis. The difference between the two lies in the responsibility for the risk incident to transport. In the beginning the terms of the contract were

*G. N. CHAPMAN, *A Series of four Lectures on Organisation and Business Methods of the Oilseed Trade*, p. 12.

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"Cost Insurance and Freight", and the shipper had fulfilled his whole liability when he had purchased the necessary quantity of seeds and had at the agreed time of shipment placed the same safely and in good condition on board the steamer to carry it to its destination, had fixed a rate of freight, and provided insurance to cover the journey home. These were the terms on which the earliest business was done. Later, the buyers developed a tendency to buy their goods delivered at their own door and to base their price upon their condition at the time of delivery. Hence, sprang up the "*Sound Delivered*" terms. Thereunder, the shipper has to take the responsibility for all risks right up to the time of arrival, and the buyer does not commence to accept any responsibility until the point at which the ship begins to discharge her goods at the destination. So there is a wide difference between the two forms of contracts, and a mistake has sometimes been made in endeavouring to make alterations to bring them nearer to one another. Naturally, the shippers are anxious to endorse as few risks as possible, and therefore, the nearer their contract is to the C.I.F. terms, the better they are pleased.

The wording of the earlier contracts was extremely simple. It is interesting to see, how few were the terms as compared with the lengthy documents now in use. One of the earliest forms was for the sale of Indian linseed. There were only three principal clauses. First, analysis, which was on the basis of 4% reciprocal, secondly, the provision of method for weighing and sampling; and, lastly, the arbitration in all cases of dispute, thus avoiding legal proceedings. But, in course of time, the contracts have grown in size. These contracts have been built up clause by clause, provisions having been inserted to cover difficulties as they arose, very much in the same way as the present Bill of Lading has been constructed item by item to provide against future recurrence of dangers that have been ascertained. "However, it appears that 'too much importance' has been given to this endeavour to cover every risk, and it is recognised that it is a great mistake to load up a contract form with all sorts of provisions and clauses to cover risks and dangers which might be regarded as quite unusual and accidental. The main object of a contract should be to provide for all the usual and ordinary conditions of business; the unusual and exceptional can be dealt with by arbitration."*

The great advantage of the forms of contract printed under the name of the Incorporated Oilseed Association is that the terms have been agreed to by sellers and buyers so that they can sign them as printed without having to weigh every clause; the only thing they have to guard against is that no clause should be written in. It is a matter of common law in England, and probably also on the Continent, that in all printed forms and contracts anything written overrides anything printed when one conflicts with the other.

Indian shippers are many a time unable to understand the intricacies of the clauses of the contracts and often involve

*G. N. CHAPMAN, *A Series of Lectures on Organisation and Business Methods of Oilseed Trade.*

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themselves in losses. Therefore, it would not be out of place here to take one of the contracts of the Incorporated Oilseed Association and study it with a view to clarify the meanings of the different clauses.

Explanation of the Clauses of the Contract.—The contracts of this Association, whatever the divergence in the words or sentences there may be, are, as much as possible, similar in construction and can be divided under the following clauses:—

- (1) Description of goods.
- (2) Declaration of shipment.
- (3) Payment.
- (4) Strikes, etc.
- (5) Discharge, sampling and analysis.
- (6) Basis of admixture.
- (7) Notice of arbitration.
- (8) Cancellation.
- (9) Default.
- (10) Domicile.
- (11) Arbitration.*

I. Description of Goods.—This clause describes the goods in quantity and quality. It clearly lays down that the decision of the Incorporated Oilseed Association regarding the quality of oil-seeds will be acceptable. It also lays down the route by which the seeds are to be shipped, and whether there is to be transshipment, if any, *en route*.

II. Declaration of Shipment.—Next we come to a very important clause for the crushers, i.e. the Declaration of the Shipment. It imposes an obligation on sellers in Europe or their agents to declare the particulars of shipment, with date of bill of lading, or bills of lading with approximate weight not later than 14 days from the date of the bill of lading. This, naturally, obliges the Indian shipper to cable the name of the ship, the date of B/L and the approximate weight shipped. Such information is necessary within the shortest time to the crusher who has to provide for the requirements of his mill. When the seller in Europe or his agent gets the documents he must immediately give the marks and numbers of bags. The first declaration gives the buyer his first hold on the goods. The seller has then bound himself to deliver by the named steamer. He cannot get out of his obligation. Further, the contract covers the case where an appropriation passing through several hands happens to reach an immediate buyer after the expiry of 14 days. Such an appropriation must be passed on without delay, that is to say, immediately after receipt and by wire, if buyers and sellers do not live in the same town. If an intermediary delays even by one day in passing on such an appropriation he runs the risk of the buyer rejecting if the market price is lower than the purchaser's contract price. The question of passing on appropriation is a very important one as it leads sometimes to disastrous results. Supposing, the steamer reaches (reports) earlier than 14 days and the purchaser is required to pay demurrage, he will be entitled to recover it from the seller.

*For a copy of the Contract Form see Appendix B. Form No. 7.

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Buyers cannot refuse a tender for slight deviation in marks and number of bags, but would certainly have a claim in case of serious deviation, and might possibly be entitled to reject the goods. All expenses in connection with marks, etc., will be borne by sellers.

III. Payment.—This clause states that the payment is to be made within 21 days of the ship's reporting. As there is always a loss in weight besides the allowances, the sellers may have to make for analysis and for condition, the buyer has the power of retaining a margin of 4% to be accounted for in final invoice. The ship's reporting is the day of entry at the Customs House at the port of destination. The clause gives an option to the seller to obtain payment against or in exchange of shipping documents. Naturally, this means that the payment is always against shipping documents but as the money is not due for 21 days the buyer is allowed interest at 5% or at the Bank of England Rate if over 5%, if he pays the amount earlier. He must also be prepared to accept the Delivery Order provided it is countersigned by banker, ship-broker, Captain or Mate. It must be understood that a D/O cannot be issued except by the person in possession of the B/L. The shipping documents must be accompanied by an insurance policy effected with an "Approved" underwriter. If the seller tenders a letter of insurance, it must be an "Approved" letter of Insurance. The word "Approved" here means approved by the buyers, but if they disapprove they must have a valid reason. As a matter of fact, the buyers need have no worry about the insurance policy as the contracts are for "Sound Delivered" terms and the seller is responsible to the buyer for the sound delivery of goods.

IV. Strikes, etc.—We now come to the strike clause. Neither the shippers nor the crushers have any control over the difficulties arising from time to time by labour disputes. The framers of this clause have, therefore, tried to distribute equally between both the parties to the contract the burden of expenses incurred through these troubles. It deals first with the delivery at destination and provides that the time of delivery and the payment shall be extended until the strikes and other troubles preventing the delivery have subsided. The buyer is required to pay interest at half the rate of the Bank of England for the said extension. The clause then deals with the strike which might happen of receiver's men and implies that the receiver would be responsible for demurrage of the steamer if by exercising reasonable diligence he could have secured other labour than his own men. The clause then proceeds with the possibility of a strike at the port of shipment. This part of the clause can be better explained by an example. Supposing a Bombay merchant had sold 500 tons of linseed "Bombay Bold" for March shipment and on 15th March a strike were declared in Bombay and lasted till 2nd April, the seller would be entitled to ship up to the 18th April, because there were 16 days between the day on which the strike was declared and the end of the time stipulated originally in the contract. Then comes a sentence which requires an explanation. "In case of

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non-fulfilment under above conditions the date of default shall be similarly dealt with." A default is the failure of either party to carry out the obligations of the contract and the defaulting party must make good to the other party if there is a loss owing to the difference of price between the price of the contract and the current price on the day of default. The date of default is the last day on which a valid appropriation would be made. For example, for March shipments it would be 14th April, but if a strike had intervened, that date would be extended by the number of days of the contract time during which the strike had lasted. The last line binds the shipper to give notice to the buyer not later than 2 days after the expiry of the original time of shipment, if he intends to take advantage of the above extension of time, and he must name the port or ports from which he intends to ship. Official certificates of the existence and duration of the strike have to be attached to the shipping documents, and the termination of the strike has to be cabled to the I.O.S.A. within five days of the event.

V. Discharge, Sampling and Analysis.—The next clause deals with sampling and analysis. It is from this stage that the work of the Incorporated Oilseed Association begins. The clause requires the buyers to select 5 bags out of every 100 bags and to empty two out of them to find out the tare. Buyers have the option to have the whole lot weighed at their own expense. The clause further lays down, that a *Fair Average Sample* should be taken out of the bags emptied for the purpose of finding out the tare, and sealed in a special bag in the presence of the buyer and the seller and forwarded to the Incorporated Oilseed Association, London, who on those samples determine by analysis the quantity and description of the substances contained therein. The Association having analysed the seeds delivers a certificate based on the agreed standard of 4% admixture; if there is less the buyer pays; if there is more, the seller pays the difference.

VI. Basis of Admixture.—This clause stipulates, that all other grains except oil-seeds should be considered as dirt. This seems to be quite justifiable because other grains are not at all going to yield any oil. As regards other oil-seeds contained therein, the clause lays down that these are to be considered as worth half the contract price. Indian linseed is hardly pure: it does contain oleaginous substances. The basis on which linseed is sold to the English merchants (crushers) is the pure basis, and as such, dirt, non-oleaginous substances, etc., have to be allowed for. If, however, there is some admixture the buyer is to receive allowance for the same. If it is found that pure linseed is less than 92%, the seller will have to pay a penalty equal to the excess of the calculated allowance over 4%.

VII. Notice of Arbitration.—The party who is not satisfied with the quality of the goods is at liberty to give notice of arbitration to the other party, with particulars of claim and the name of the arbitrator within 21 days of the reporting of the steamer. The practice seems to be that the buyer gives his seller notice of claim of arbitration immediately on the arrival of the

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steamer. That puts him in order, and if, later, after thorough examination of the goods, he is satisfied with their quality and condition he need not proceed with arbitration. Some buyers rely on their arbitrators to examine the samples and decide whether the claim should be proceeded with or not. If notice of arbitration is not given on all parcels at the time of their arrival, the office staff is very likely to let the time pass within which the claim ought to have been made. It is 14 days for quality and 21 days for other claims from the date of the ship's reporting. It is the custom that when a parcel has been passed through several hands the names of the arbitrators chosen by the shippers and crushers are passed from one intermediary to the other and an award when delivered by the representatives of the first seller and the last buyer is binding on all intermediaries. The arbitration must be held within six weeks of the making up of the standard.

VIII. Cancellation.—This is a clause which helps to decide many of those differences of opinion which arise between buyers and sellers. The seller has, as we have seen, in the declaration clause, given the buyer the name of the steamer by which the seeds are to be delivered and he is thereafter bound to deliver them by that steamer. But there are circumstances absolutely out of his control which may prevent the delivery by that steamer. There are the strikes and other troubles with which we have already dealt. There are also risks of the high seas. A steamer may have to put into some port with such damage that she cannot continue her voyage, but her cargo could be shipped on another steamer to carry it to its destination. The contract stipulates that the sale would be void if the transshipment has taken place outside Europe, while, if it happens in Europe, the buyers must accept the goods on arrival at destination provided they are transhipped promptly.

IX. Default.—Default means the failure of either party to carry out the obligations of the contract. If I had bought 500 tons of Bombay linseed, and when the steamer arrived had not got money to pay for it, the seller would give me notice in writing that he is going to re-sell the seed elsewhere, and if the re-sale showed a loss I would have to make good the loss to him. If I considered that the price at which the goods were re-sold was not the proper market price I would be bound to have it forthwith settled by arbitration. That is the principle underlying all cases of default whether by non-delivery of goods or by insolvency or any other failure to carry out the contract. In case of the bankruptcy of the buyer, the seller can give notice in writing to the bankrupt, and then, if by the re-sale he suffers a loss he can place his claim against the estate of the bankrupt. In case he makes a gain he will be accountable for that to the estate of the bankrupt.

X. Domicile.—The clause stipulates that the contract should be deemed to have been made and performed in England notwithstanding the place of payment or otherwise, and the Courts of England or arbitrators appointed in England shall have exclusive jurisdiction over all disputes which may

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arise under the contract. It adds, "except for the purpose of enforcing any award made in pursuance of the arbitration clause thereof." We take it that exception is made because in several foreign countries the awards of the English arbitrators were not recognised in the beginning, but now most of the countries recognise the awards given by the arbitrators in London. Further, the clause establishes, that the domicile of the parties to the contract residing outside England shall be the offices of I.O.S.A. The service of proceeding upon a party residing abroad shall be in order if left at the Consulate of the country of that party. This clause shows clearly the helplessness of an Indian exporter who has not got an agent in England.

XI. Arbitration.—This clause stipulates, that before any legal proceedings can be started all disputes arising out of the contract must be submitted to an arbitration. In case the arbitrators are required, in the course of arbitration, to refer the case to the Court for its opinion, the cost, etc., shall have to be borne by the party requiring the same to be stated unless or except so far as otherwise determined by the award to be made in the reference.

The following are the rules regarding arbitration:—

ARBITRATION RULES

Rule I.—Rule I describes the people who may be appointed as arbitrators. They and their members must be members of the I.O.S.A., or they must be partners in a firm or directors of a company represented by a member of the I.O.S.A. The concluding part of the rule states that the decision of the arbitrators, or in case of their disagreement, the umpire, shall be final.

Rule II.—Arbitration fees are ordinarily payable by the party against whom the decision is given, except in cases when an allowance is fixed by the arbitrators on goods damaged during the voyage, in which case the fee is to be equally divided. The fee is also to be equally divided in those cases where the arbitrators so declare.

Rule III.—In rule III there is a provision for the appointment of an official arbitrator or an umpire in the event of:—

- (a) One of the parties refusing or neglecting to appoint an arbitrator within seven days after the notice of claim by the other party.
- (b) If the arbitrators do not within seven days of their appointment agree to an award or appoint an umpire.
- (c) If either of the arbitrators or umpire should die or refuse to act or become incapable of acting.
- (d) If the party concerned does not appoint a substitute within three days of his arbitrator's inability to carry out his mandate.

The Executive Committee of the Association will proceed to appoint an arbitrator, arbitrators, or umpire, provided a fee of £ 2-2-0 has been received by the Secretary from the

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applicant. If one of the parties refuses or neglects to appoint a surveyor within seven days after notice in writing of such appointment by the other party has been given, or the arbitrators fail to appoint an umpire within seven days after their appointment, the Executive Committee of the Incorporated Oilseed Association shall appoint an arbitrator or arbitrators or umpire, who shall act under the Association.

Rule IV.—The award of the arbitrators or umpires must be given on an official form issued by the Secretary of the Incorporated Oilseed Association.

Rule V.—Rule V stipulates the case where the party feels dissatisfied with the award of the arbitrators. The dissatisfied party has a right of appeal to the Committee of Appeal of the I.O.S.A. provided a notice claiming it is given within 14 days after the date of the award and a fee of £21 paid, if he is a member of the I.O.S.A. or £26-5-0, in case he is not a member.

Rule VI.—Having got the money and the notice the Association proceeds to call a meeting of the Committee of Appeal who elect 4 of their members to hear the appeal. They also elect a fifth member who is called upon only in case one of the five elected should be prevented; and he gets £1-1-0 as a compensation for having to be at hand in case he is wanted on the day the appeal is heard. There is a provision, that no member of the Committee of Appeal who has an interest in the matter in dispute, and no member of the same firm or company to which the arbitrator belongs shall vote on the question of appointment of a member of the Board of Appeal. These restrictions are quite justifiable.

Rule VII.—Rule VII aims at excluding a counsel or a solicitor representing either party from the arbitration or at the hearing of the appeal unless the arbitrators or umpire or Board of Appeal should consider the case of special importance or a question of law may arise upon which the opinion of the Court may be required.

Rule VIII.—If an Appeal Board decision should be to vary the award already given it is necessary that at least three members of the Board of Appeal should so decide. It also requires the vote of three members of the Board of Appeal to decide that the cost of appeal should not be borne by the loser.

Rule IX.—No party can question the validity of the award given by the arbitrators on the ground that the arbitrators are not qualified to give such an award unless an application is made in writing before the hearing of such arbitration. Also, the decision of the Board of Appeal cannot be questioned on the ground of irregularity in the election of the Board of Appeal unless an application in writing is made and established to the satisfaction of the Committee of Appeal before the hearing of the case begins.

Rule X.—The last rule stipulates the place where the notice can be delivered personally or left, in case the party is not there. It is the place where the party is carrying on his business.

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Having discussed the position of India as a leading exporter of seeds, the destination to which they go, the basis of sale and the terms of the contract, we next come to the question of the formalities which are gone through at the time of shipping of seeds.

Preparing of Seeds for Shipment.—Seeds, as they arrive in Bombay from up-country towns, are removed by the consignees to their godowns where they are subjected to a process of cleaning, as different seeds are exported from India on different basis of refraction. For instance, linseed is exported to Italy on 4% refraction basis, and castor seed 3%, while other seeds are exported on pure basis. As such all seeds intended for export, without exception, have to go through a process of cleaning and brought to a degree of cleanliness according to the terms on which they are to be sold in foreign markets. The process of cleaning the seeds is a complicated one and is bound to take a long time if gone through with hand. Some seeds like groundnuts and castor seed are cleaned with the help of double sieves and then with the help of hands. This method is not only tedious but takes a long time and is also not very effective. The export houses have installed elaborate machinery for purposes of cleaning the seeds. It is not only quick but is also very efficient. The cleaning machines combine in themselves an automatic scale, so that goods, after they are cleaned, are weighed and filled in bags of standard weight. This is quite quick. A machine can clean and fill as many as 4,000 bags of an average weight of 168 lbs. in a day.

Booking of Space and Freight.—The goods after they are cleaned and bagged are ready for export. For the purpose of export, arrangements for space in a steamer have to be made. This work is generally entrusted by export houses to the freight brokers, who specialise in this type of work. The freight brokers are always in touch with the shipping companies and know the space available in each ship sailing from Bombay. Each freight broker issues his report* which gives the freight for different articles for different ports.

For purposes of freight, seeds are divided into two classes: light weight and heavy weight, as the principle underlying freight is weight and space occupied by the cargo. Seeds like cotton, castor and kardi are considered as light seeds, whereas seeds like rapeseed, groundnut (shelled), mustard, sesame and niger are considered as heavy ones.

Given below is a list of the seeds, which are accepted as light seeds, and those accepted as heavy seeds, together with the weight that goes to make a ton:—

	<i>Weight to a ton</i>
(1) Castor seed (B. Cawnpore)	Light .. 10 cwts.
(2) Castor seed (Small)	Light .. 12 „
(3) Cotton seed	Light .. 13 „
(4) Sesame seed	Heavy .. 14 „

* For a copy of the Report see Appendix B. Form No. 8.

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	<i>Weight to a ton</i>
(5) Groundnuts (shelled)	Heavy .. 14 cwts.
(6) Unshelled groundnuts	Light .. 6 "
(7) Linseed in bags	Heavy .. 16 "
(8) Mowra seed in bags	Light .. 13 "
(9) Mustard seed	Heavy .. 15 "
(10) Niger seed	Heavy .. 14 "
(11) Poppy seed in bags	Light .. 13 "
(12) Rapeseed	Heavy .. 15 "
(13) Kardi seed	Light .. 13 "

From the memo of the freight brokers it is clear that there are different rates for different seeds. The heavier the seed the more the freight per cubic ton space it will have to bear.

Shipping Order.—As soon as space is booked with a steamship company, or their agents through a freight broker, the shipping company issues what is called a Shipping Order,* which is an order on the commander of the ship in which space has been booked, to accept so much goods from the shipper mentioned therein. The Shipping Order is stamped with one anna stamp.

Customs and Other Shipping Formalities.—After having obtained the Shipping Order the shipper has to prepare a document called Shipping Bill† in triplicate; the original being stamped with one anna stamp and signed by the shipper or his duly authorised agent. He has then to fill up Application to Export Form‡ in duplicate, supplied by the Landing and Shipping Dues Office, and present all these at the Landing and Shipping Dues Office, paying shipping dues and pier dues, if any, at the rates prescribed. If there are no shipping dues to be paid in a port, it is not necessary to fill in the Application to Export Form. After the necessary entries are made in that office, these documents, except one copy of the Application to Export Form, are returned to the shipper, who has to take them to the Customs House himself, or through his agent duly authorized for the purpose, and present them to the Customs Collector. The Customs House authorities record the necessary particulars in their books, and hand over to the merchant the Shipping Order, and the original and triplicate copies of the Shipping Bill. The duplicate copy of the Shipping Bill is retained in the Customs House as office copy. The copy of the Application to Export retained by the Landing and Shipping Dues Office is their office copy. The other copy serves as a receipt to the shipper for having paid the shipping dues. The Customs Collector of a port, where these dues are levied, cannot accept a Shipping Bill, unless it is accompanied by the Application to Export Form receipted by the Port Officer. This is returned to the shipper by the

*See Appendix B. Form No. 9.

†See Appendix B. Form Nos. 10, 11, 1

‡See Appendix B. Form Nos. 13, 14.

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Customs House, with the Shipping Order, and copies of the Shipping Bill.

Oil-seeds come under a class of goods on which no customs duty on exports is payable, but at the port of Bombay wharfage is charged at the following rates:—

Name of the seed	Wharfage with surcharge			Unloading		
	per ton			per ton.		
	Rs.	a.	p.	Rs.	a.	p.
Bold Cawnpore Castor seed ..	1	2	0	0	4	0
Castor seed small ..	1	2	0	0	4	0
Cotton seed ..	1	2	0	0	4	0
Gingelly seed ..	1	2	0	0	4	0
Groundnuts (shelled) ..	1	8	0	0	4	0
Groundnuts (unshelled) ..	1	8	0	0	4	0
Linseed in bags ..	1	2	0	0	4	0
Mowra seeds in bags ..	1	2	0	0	4	0
Mustard seed ..	1	2	0	0	4	0
Niger seed ..	1	2	0	0	4	0
Poppy seed in bags ..	1	2	0	0	4	0
Rapeseed in bags ..	1	2	0	0	4	0
Kardi seed ..	1	2	0	0	4	0

There is a surtax at 4-1/6% in addition to the unloading charge.

Having paid the shipping dues and having gone through the Port Trust and Customs House formalities, either himself or through his authorized agent, the shipper then proceeds to make arrangements for sending the goods to the docks for being placed on board the ship. The goods are allowed to be taken into the docks on the handing of the original copy of the Shipping Bill to the gate-peon which is taken by the customs supervisor, when he goes on board the steamer for the inspection of the consignment. If the consignment is short, or in case the goods are not shipped, the original of the Shipping Bill is handed over to the shipper who has to endorse on the back the actual quantity shipped by him and value, and return it to the Customs House, either direct or through his agents within five days from the date of clearance of the vessel. Failure to do this entails penalty on the shipper.

When the seeds are taken from the wharf to the steamer, the Shipping Bill, the Shipping Order and the Application to Export have to be handed over to the captain of the vessel or to the officer deputed by him to receive them, who, on proper examination of packing, issues to the shipper or his agent a document called the Mate's Receipt.* The Shipping Bill, the Shipping Order and the Application to Export are also returned.

* See Appendix B. Form No. 15.

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In case the captain of the ship or his assistant finds some defect in the packing of the goods, he makes a remark to that effect on the Mate's Receipt, which makes the receipt foul or dirty. On presentation of the Mate's Receipt and on the payment of freight, the shipper obtains from the shipping company a document called Bill of Lading (B/L).*

When the above formalities are being gone through the shippers instruct their insurance brokers to arrange for insurance, so that by the time the bill of lading is ready, the insurance company, after making inquiries about the shipment is in a position to issue the insurance policy. Large exporters who export consignments of seeds from time to time, take out what is called a floating policy of insurance, for the total approximate value of the shipments they propose to make; and every time a shipment is made, instruct the insurance company to cover the risk of the shipment under the floating policy. The insurance company, on receiving the advice from the insured issues an Insurance Certificate covering the risk under the floating policy. The shipper then proceeds to obtain the Certificate of Origin† and prepares his invoice for the goods, and the bill of exchange. Such a bill of exchange is known as a Documentary Bill of Exchange.‡

The shipper having shipped the goods and having obtained the bill of lading and having prepared a B/E proceeds to negotiate the bill with a view to be in possession of funds. In an earlier part of this chapter we have remarked that direct transactions between the shippers and crushers are rare. The sales of oil-seeds are made to brokers who have to make arrangements to reimburse the shippers. This is usually done by the brokers opening a Letter of Credit§ through an Exchange Bank in favour of the shipper. This Letter of Credit entitles the shipper of seeds to get his bill discounted at the particular bank, provided the B/E is accompanied by the relevant shipping documents. In those cases, where the sales of seeds are made to the crushers direct, as is the case on the Continent, the crushers have to open a similar Letter of Credit.

A detailed treatment of the Letter of Credit and how the shipper is placed in possession of funds follows in the next chapter, which deals with the finance of the oilseed trade.

* See Appendix B. Form No. 16.

† See Appendix B. Form No. 17.

‡ See Appendix B. Form No. 18.

§ See Appendix B. Form No. 19.

CHAPTER VIII

FINANCE OF THE OILSEED TRADE

General.—"Money makes the mare to go" is as much true in the case of oil-seeds as in any other merchantable commodity. The financing of oil-seed crops runs right from the beginning of the growing season, for very few of the growers have adequate means to see them through the season till they are ready for sale. The great majority of the producers have to borrow at least a part of the expenses of producing the crop, and many of the small producers have to provide themselves even with the necessary minimum of food and clothing during the growing season, let alone the direct expenses of producing the crop.

Oil-seeds, during their march from the growers to the crushers pass through several intermediaries, many of whom render no other material service, except giving them a push toward their destination. These intermediaries require money for performing this function; and so, the question of the finance of the oil-seed trade resolves itself into finding out as to how and whence this money, the universal motive power, is obtained.

Important intermediaries who handle oil-seeds are:—

Local Market	1. The Producers.
Primary Market	{ 1. <i>Adatyas</i> .
	{ 2. Up-country merchants.
	{ 3. Agents of Bombay firms.
	{ 4. Agents of Non-Indian export houses.
Terminal Market	{ 1. Oilseed merchants & <i>muccadams</i> .
	{ 2. Indian exporters.
	{ 3. Non-Indian export houses.

It will be our purpose in this chapter to take up these intermediaries, one by one, and see how each is financed to perform his function efficiently.

FINANCE AT THE LOCAL MARKET

The Producer.—The finance of the producer is the first stage in the finance of the oilseed trade. The agriculturist, that is the producer, is in want at every stage of his agricultural activity. He is, in most cases, even without a stock of seeds enough for sowing purposes, and has, therefore, to go to somebody for a loan of seeds or money enough to buy him the seeds required. Again, while the crops are growing, he requires money to meet his current outgoings and to facilitate production.

Nature & Requisites of Credit required.—All this credit is of short-term character as the cultivator hopes that after the

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harvest is ready he will pay off the debt, unless there is a partial or total failure of crops. The Madras Presidency Banking Inquiry Committee have very ably analysed the requisites of the short-term credit required by the cultivators which we take the liberty of reproducing below*:

- (1) "As the loans are required for the expenses of cultivation, including rent and domestic expenditure, they should be available in comparatively small sums spread over a period of 8 or 9 months and should be repayable only when the crops are sold."
- (2) "The loans should be available at short notice so as to enable the cultivators to take advantage of the rains and do the ploughing as soon as possible."
- (3) "The finance must be adequate." As pointed out by the Madras Committee, "It is useless to lend money to plant the crop and to refuse a loan for further expenses connected with cultivation, as the first loan is jeopardised by such a refusal."
- (4) "The loans must carry a reasonable rate of interest, as otherwise agriculture may not be profitable even when other circumstances are favourable."

Credit Agencies available to the Producer.—The following credit agencies are available to the producer for the purposes of financing his short-term needs:—

- I. Co-operative organisations.
- II. Government (Provincial).
- III. Commercial Banks.
- IV. Indigenous Bankers.
- V. Village money-lenders.

I. Co-operative Organisations.—The Rural Co-operative Societies, which are worked on the basis of mutual guarantee and on unlimited liability, are now generally employed as agencies for granting short and intermediate credit to the agriculturists. But the finance done by them is often inelastic, dilatory and inadequate, largely owing to the inefficiency or the selfishness of the Managing Committees. Members have to put up with much personal inconvenience and delay before they can obtain loans from the societies; and even then they may not get sufficient money for their requirements. Many of them have, therefore, to obtain a part of their finance from the money-lenders.

Some societies, on the other hand, borrow as much as they can from the Central Banks once a year and lend the money immediately to their members in lump sums, in the hope that the latter will make it last for the whole year. But the members manage to spend the whole of it as soon as they get it, and when other needs arise, borrow money at high rates from the money-lenders.

Another weakness of the Co-operative Credit is that it is still much too costly in some provinces. The following table taken from The Central Banking Inquiry Committee Report,

**Madras Banking Inquiry Committee Report*, paras, 120-130.

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page 129, gives the rates of interest charged to the cultivators by the primary societies:—

Name of the Province	Rate charged to the cultivators.		
Ajmer	9 % to 12 %
Assam	15 $\frac{3}{4}$ % to 18 $\frac{3}{4}$ %
Bengal	7 $\frac{1}{2}$ % to 15 $\frac{3}{8}$ %
Bihar & Orissa	12 $\frac{1}{2}$ % to 15 $\frac{3}{8}$ %
Bombay	9 $\frac{3}{8}$ % to 12 $\frac{1}{2}$ %
Burma	15 %
C. P.	12 %
Madras	9 $\frac{3}{8}$ % to 10 15/16%
Punjab	9 $\frac{3}{8}$ % to 12 $\frac{1}{2}$ %
U. P.	15 %

This is inevitable to some extent, because two or three intermediate agencies, *viz.*, the Primary Society, the Central Bank and the Provincial Bank, need for their working expenses the difference between the rate of interest at which money is obtained for the movement from outside and that at which it is lent to the borrowing cultivators. Conditions are ideal when the primary societies obtain locally all the funds needed for financing their members, chiefly in the shape of deposits of members resulting from their practice of thrift. But the actual conditions in India are more distant from the ideal than in other countries. The majority of the primary societies, except in the Bombay Presidency, are almost entirely only agencies for the distribution of funds obtained from the central and provincial banks, instead of being the 'Savings and Loan' banks of their villages and balancing centres for demand and supply of money.*

II Government Takavi Loans.—Government help in the shape of loans to the agriculturists is provided through the Land Improvement Act of 1833, and the Agriculturist Loans Act of 1884. Under the former Act long-term loans for permanent improvements on land, such as construction of wells and embankments are granted, while under the latter, short-term loans for current agricultural needs such as purchase of seeds, cattle, manure and implements are granted. "But the Provincial Governments have no well-planned policy of promoting agricultural improvements by the grant of such loans which are called *Takavi* or *Tagavi* loans, and the assistance given by them, so far, by these means is a small part of the finance needed by the agriculturists."†

Not only is the financing done by the Co-operative Credit Societies as well as the Government *Takavi* loans meagre, but is also most tedious and irksome, and in no way conforms to the above requisities. In his evidence submitted to the Royal Agricultural Commission, Rao Bahadur H. Desai, Naib Dewan

* *Report of the Foreign Experts to the Indian Central Banking Inquiry Committee*, p. 691.

† S. G. PANANDIKAR, *Banking in India*, p. 109.

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of Baroda said: "The cultivators are unwilling to take advantage of the *Takavi* Loans because there is—:

- (1) Leakage in receiving it,
- (2) Delay in getting it, and
- (3) Rigidity in recovering it."

An application for the *Takavi* loan has to pass through the *patil* and the *talati* of the village, who certify that the applicant is a *khatedar* and that his property is unburdened. The application is then forwarded with the certificates to the Taluka Officer (*Tehsildar*) and if the amount is beyond his powers, to the Collector, who, after careful scrutiny, sanctions the amount. The farmer has to pay tips to several clerks in the Collector's Office before the amount is sanctioned and he considers himself fortunate if he gets 75% of what he applied for. All these operations take several months and on the sanctioning of the amount, instalments are made which have no relation whatsoever to the seasons. Even if the year is bad it is difficult to get postponement. For these reasons the *Takavi* loans are not taken advantage of by the farmers. The producer naturally prefers a village money-lender to the Government *Takavi* Loan. It was rightly remarked by Rao Bahadur Desai, that about 95% of the financing of the farmer's needs is done by the village money-lender, who meets the demands of the farmer, is easily approachable and fully understands the needs of the farmer as well as his capacity to repay the loan; and gives the farmer as much latitude as he needs. We cannot help calling him as the 'friend in need' of the farmer.

III. Commercial Banks.—Commercial Banks and the Imperial Bank of India do not finance the agriculturists directly to any appreciable extent, as they are not so organised to deal with them. They cannot keep themselves in close touch with the doings of the agriculturists. Moreover, the uneconomic nature of the majority of agricultural holdings, and the slenderness and the non-liquidity of the security that agriculturists can offer, also prevent them from regarding agricultural finance as a part of their general business. They are, further, unable to help the agriculturists directly on account of the small number of branches. A few banks, however, especially the smaller ones, lend direct to landlords and the more substantial producers, to some extent, on the pledge of the produce, ornaments, or other valuables or against mortgage at rates varying from 7% to 10%.

IV. Indigenous Banks.—It is ordinarily not practicable for the indigenous banker to establish direct business relations with the *ryot*. He finances agriculture, indirectly, through local *soukars* or money-lenders to whom he advances money. Thus, as far as the agriculturist is concerned, he has nothing much to do with the indigenous banker.

V. Village Money-lender.—Of all the credit agencies available to the producer the village money-lender satisfies all the requisites of the finance needed by him. His finance is available to him in small sums, at short notice, is adequate and bears interest. His rate of interest is unusually high, his practices many a time objectionable, but the cultivator submits to them

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all because his needs are always met. It is to him he goes and never returns disappointed.

Practices of Money-lenders.—Money-lenders, as a class, are shrewd people and lend money to the cultivators on the condition that they would pay back the debt in commodity at a rate higher than the rate prevailing in the previous year. The cultivator is asked to sign a document in which he is made to agree to pay the debt in kind at a rate fixed about six to eight months before the crops are ready. This system of binding down the agriculturists to a fixed rate is known as the *Manoti system* and the money-lenders who lend money on these conditions are known as *Manotidars* or *Bhores*. The *manotidari* system is prevalent in several States from where Bombay's supply of oil-seeds is received, particularly in the Native State of Kotah. One might argue, that it is a simple future contract entered into between the *manotidar* and the agriculturist by which the latter agrees to sell his produce at a specified rate. Such transactions are entered into between merchants in all markets. In theory, it may appear alright, but if we study the question from a practical point of view, and see the fairness of the situation, we find that it is not a contract entered into between two wide-awake parties, who know something about the future course of events, but it is a contract between a shrewd businessman and a needy, ignorant cultivator, who knows nothing about the future trend of prices. He enters into a contract of this nature, not because he believes that the price of his produce would be lower than the last year, but he knows by experience that whenever such credits are granted the rate fixed has always to be lower than in the last year. Also, whereas the dealer in an organised market can hedge his future transactions, the cultivator has neither the means nor the intentions of doing so.

A system similar to the one described above prevails in the States of Sangli and Kolhapur, where some of the cultivators, instead of going to the village money-lender, go to the *adatya* or the commission agent in the nearest market town and borrow money on the security of the standing crops like groundnuts, and kardi seed, which are the main oilseed crops of these States. It is perhaps choosing the lesser evil of the two. The commission agent charges an exorbitant rate of interest and binds the farmer to sell his produce through him only. One does not see much harm in such a stipulation, provided the rate of interest charged is reasonable. These practices of the money-lenders are not commendable, but it cannot be helped unless a better machinery for the finance of the producer is installed.

FINANCE AT THE PRIMARY MARKETS

The Adatya.—The second party in the chain of intermediaries is the *adatya* or the Primary Market Commission Agent. He is a middleman and sells seeds on behalf of the producer. It is the usual practice at the primary oilseed markets mentioned in Chapter III that the producers, who bring their wares to the markets, invariably receive the price of their goods by evening, provided they are sold. They look for the payment of the price of their produce to the *adatya* and not to the individual

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purchasers. Therefore, the *adatya* must have sufficient funds with him to make such disbursements. *Adatyas* are, generally speaking, moneyed-people and, in ordinary cases, keep enough cash with them to meet their requirements. However, in case an *adatya* stands in need of some money on a particular day, he can temporarily borrow from a co-*adatya* at a very nominal rate of interest. Such a loan is not for more than a few days as money must come from the purchasers of produce within that period.

Up-country Merchants.—The third intermediary in the above chain is the up-country merchant. It may be pointed out here, that he does not need much financial help while purchasing seeds, but his power of holding out long is not much. He purchases mainly with a view to sell either at the primary or at the terminal market. In case it takes him long to find a buyer at the primary market and he intends to make more purchases he pledges the seeds to a bank, if there be any, and if the same be prepared to advance money against produce, and manages to receive about 75% to 80% of the price of the seeds. With this amount he trades further. It may be pointed out that such facilities for the up-country merchants do not exist at all the primary markets. We found this facility existing at Kolhapur where the Directors of the Shirgaonkar Bros. Bank, Ltd., with a view to assisting the local merchants, advanced against produce. We also came across similar facilities existing at Amraoti where we learnt that the Imperial Bank of India advanced about 75% of the market price of the seeds. The Bank of Baroda, Ltd., which has a branch at Mehsana, did not extend such a facility to the local seed merchants. So the local up-country merchants are often handicapped in making further purchases for want of adequate finance.

As pointed out in the previous pages, the up-country merchants arrange to send seeds to the *muccadams* in Bombay with a view to selling them in the terminal market. If an up-country merchant sends goods to a Bombay *muccadam* or a commission agent for sale, the question of the finance is solved. He, after having consigned his goods to a *muccadam*, draws, according to the arrangement, 75% to 80% of the price of seeds and gets the bill discounted with any of the *adatyas* or merchants at the up-country market. It may be noted, that as most of the Bombay *muccadams* are firms of long-standing and of repute, the up-country merchant's bill is sold off without any difficulty. On the contrary, there is a great demand at up-country markets for such bills as there are always dealers at the up-country markets, who having made purchases from Bombay of articles such as cloth, machinery, iron-wares, etc., etc., have to send remittances to Bombay, and are, therefore, looking for bills on that city. That is why the rate of discount paid by the up-country merchant, even at the primary market is reasonably low. The settlement of the remaining 20 per cent. between the up-country merchant and the *muccadam* takes place after the seeds have been sold off in Bombay.

Finance of the Agencies of Export Houses.—Finance of the agencies of the export houses, both foreign and Indian, is done mostly by the up-country *shroffs*, i.e., indigenous bankers. The Bombay merchants as well as export houses generally have an

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arrangement with the up-country *shroffs* to pay for their purchases and to accept, in lieu of the amount paid, bills drawn by the up-country agencies on their head offices. Their charge which is called *shroffage* generally ranges from as. 4 to as. 8 per cent.

FINANCE IN THE TERMINAL MARKET

Muccadams and Merchants.—This brings us to another stage in the finance of the oilseeds trade, *viz.*, the Terminal Market. Bombay merchants as well as *muccadams*, who hold seeds, require finance till the seeds are disposed of. Credit required at this stage is usually for a short period, say sixty or ninety days. It is at this stage that the *shroff*, who is an indispensable figure in the Indian money market, and the Imperial Bank of India come to help. It may be pointed out that the part played by the Imperial Bank of India in the finance of the oilseed trade in Bombay is both meagre and inadequate. It will not be out of place here to have an idea of the different ways in which the Imperial Bank finances the dealers in various commodities. Let us take the following important articles, which loom large in the export and import trade of Bombay:—

- (1) Cotton,
- (2) Piece-goods,
- (3) Oil-seeds and grains.

Cotton merchants are advanced about 70% of the price of cotton by the Imperial Bank of India after taking into possession the key of the godown containing cotton. In the case of piece-goods the Imperial Bank of India is content with the Delivery Order of the Port Trust Warehouse, and advances 75% of the import price of the goods. The system followed by the Imperial Bank of India in financing the seed merchants is different from the above two methods. In the case of seeds, the Imperial Bank of India not only demands the possession of the godown containing seeds, but also the personal promissory note of the holder of goods endorsed by an approved *shroff*. The endorsement of a *shroff* at the back makes the position of the Bank safer, for, in case the maker of the promissory note fails to meet the note on the due date, the bank can hold the *shroff* responsible. However, such cases of default are rare and as the dealers are very scrupulous to maintain their credit, they do all they can to meet their obligations on due dates. Such promissory notes are renewable provided the *shroff* is prepared to endorse the new promissory note tendered in place of the old one. This appears to be rather a perfunctory manner of financing the seed trade in Bombay.

The joint-stock banks in Bombay have shown a cold shoulder and have, even up to this date, failed to recognise the importance of advancing money against seeds as security. During the course of our investigation we had an occasion to see the head of the loan department of a local joint-stock bank in Bombay and inquired of him as to the method of financing the oilseeds trade followed by his bank, to which he replied in a very assertive tone, "We don't like oil-seeds." This indifference on the part of joint-stock banks against produce as security is

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probably due to the prejudice created by writers like Gilbert and Hutchinson against such securities in the minds of early English joint-stock bankers; and as the Indian joint-stock banks are modelled on the lines of the English ones, they have blindly accepted this as a sound gospel of banking. It may be pointed out that, with the exception of certain risks, which are of a very doubtful character, these securities possess advantages which outweigh the advantages possessed by other securities like bills of exchange, which are mere intangible securities. The charges hurled against them are, that they are liable to deterioration; and that there are more chances of fraud in them. The first charge is flimsy, inasmuch as it would evaporate if the banker were to see that the seeds were properly warehoused. The second charge, we believe, is a fear without any solid foundation. As against these disadvantages, these securities claim several important advantages in their favour.

1. Tangibility.—These securities are tangible and enable the banker to fall back upon something in case of the failure of his customer. The banker can recover his loan by selling off the security which is not possible in the case of an intangible security.

2. Absence of Wide fluctuation in Prices.—Again, the value of a security of this nature is not liable to very wide fluctuations. Seeds are almost an article of necessity, and as such, their prices do not undergo very wide fluctuations.

3. Quick Salability.—Another point in favour of seeds as a security for bankers' advances is that they are salable without much difficulty. The market for produce and certain kind of goods has become more stable in modern times than was the case when international trade was not so much developed and, therefore, the old prejudice should go.

4. Accurate Valuation.—It is, again, easy to arrive at an accurate valuation of this security, so that the banker, really speaking, does not run much risk in advancing against seeds, but it appears that the joint-stock banks in India have not taken to this so far.

FINANCE OF THE EXPORT TRADE

Indian Export Houses.—The number of Indian exporters is small and the quantity shipped by them annually is still smaller. The Indian exporters arrange to sell seeds to the Continental crushers through their representatives or brokers at important Continental ports like Marseilles, Antwerp and Hamburg, etc. Before an Indian shipper agrees to ship seeds he requires the importer to open in his favour an irrevocable Letter of Credit,* through any Exchange Bank. Opening of such a credit enables the shipper to get his export-bills discounted at the said Exchange Bank provided they are accompanied by shipping documents. Thus the Indian shipper is placed in possession of funds immediately after shipping the seeds.

Opening of such a letter of credit helps the shipper in another way also. If the Indian shipper stands in need of money for the purchase of seeds, he can even receive some advance from the

*For a Form of Letter of Credit see Appendix B. Form No. 19.

FINANCE OF THE OILSEED TRADE

Exchange Bank by executing a deed that he would ship the seeds by a particular time, and that he would be negotiating the bills through them. Such an advance is known by the name of Advance against Shipment* and enables the shipper to be in possession of funds enough to purchase the seeds required for shipment. Exchange Banks generally charge an interest of 1% over Bank Rate in the case of such advances.

Foreign Export Houses.—Our treatment of the finance of the oilseed trade of India would remain incomplete, if we did not mention the manner in which the non-Indian export houses, which are the biggest exporters of seeds from India, are financed.

It may be mentioned, that the finance of the non-Indian export houses varies with their financial and moral reputation. Exchange Banks, for the purpose of finance, divide their non-Indian clients into three classes; first class or (A1), second class and the third class. The Exchange Banks are prepared to buy the "clean" bills of the first class export houses. A clean bill is a bill of exchange unaccompanied by documents of title to goods. In this case the Bank has no hold upon the goods in case the drawee of the bill dishonours the bill, but the Exchange Banks know fully well, that in the case of such first class parties dishonours are rare. In the case of first class non-Indian parties the Banks are also prepared to accommodate them in another way. That is the Banks accept a documentary or clean "House Paper." A "House Paper" is a bill which is drawn by the exporter on its Head Office or branch at the other end.

In the case of second class parties the procedure of finance is more or less the same as described above in the case of Indian exporters. That is the Bank is willing to buy the bill if a letter of credit is opened by the importer in favour of the exporter.

The finance of the parties falling in the third class is done in a different way. The exporter is allowed to consign the goods through the banker and is allowed an advance of 60% to 70% of the market price of the goods. Under this system no bill is drawn and the goods are stored and controlled by the Banker's agent or branch at the other end. The delivery of goods is made only against payment. The Bank at this end on receipt of the advice of payment cancels the loan account of the exporter and credits his current account with the difference. Many of the Indian exporters, who cannot arrange to have a Letter of Credit opened in their favour, are financed in this way.

*See Appendix B. Form No. 20.

CHAPTER IX

THE VEGETABLE OIL INDUSTRY

Historical.—The Vegetable Oil Industry in India is as old as the hills. There is ample evidence to show that the ancients knew the art of oil-pressing as well as the principal uses to which oils could be put, though the methods of oil-pressing were simple, and the uses then known, limited. But no connected history of the industry is available. A few decades ago oils in India were chiefly of interest as articles of diet or as illuminants. The only other important use to which oils were put was the anointing of the body with rapeseed, coconut or other sweet oils which practice continues even to this day.

The advent of cheap kerosene oil and mineral oils brought about a complete change in the whole outlook of the Indian Vegetable Oil Industry. It at once resulted in the curtailment of cultivation and expression of most of the minor seeds, more especially those intended as illuminants and lubricants. The wealthy people still employed castor or coconut oil for illumination purposes, but the subsequent introduction of refined kerosene oil, gas and electric light drove the vegetable oils out of use, and that too, within a comparatively short time. The coming of cheap lamps in the market may be said to have marked the complete displacement of the vegetable illuminating oils.

But thanks to science which has found numerous industrial uses for oils. This has, once again, lent a fillip to the Vegetable Oil Industry in India. A part of the oils of commerce is now employed for the manufacture of edible fats, and the proportion so used is steadily increasing. Oils, such as those of rapeseed and linseed, which have until recently been only used for industrial purposes in Europe, can now be so effectively refined as to be employed in making margarine, and large quantities of rapeseed oil have been used in this way in recent years, especially on the Continent. Cotton seed and other oils can be converted, by a process of hardening by hydrogenation into solid fats, thus adding to the world's resources of solid fats suitable for edible purposes.

No less important is the use of oils and fats in the manufacture of soaps in the course of which glycerine is separated as a by-product. As glycerine is essential for the manufacture of modern propellant explosives there is no need to enlarge upon the importance of this branch of industry. The candle industry also consumes large quantities of stearine and solidified oils.

Large quantities of oils and fats are also used as lubricants and in this connection special reference can be made to castor oil which is the lubricant *par excellence* for the aeroplane and similar works, and is, therefore, a war material of first-rate

THE VEGETABLE OIL INDUSTRY

importance. Mention must also be made of the varnish and paint industries for which drying oils such as those of linseed and poppy seed are essential.

Finally, the residue—cake or meal—left after the expression or extraction of oils and fats from oil-seeds constitutes an asset of ever-increasing importance for feeding cattle, and is, therefore, indirectly of great importance as food for human beings.

On account of the above and many more industrial uses to which oils have begun to be put in the world, demand for oil seeds from countries producing them has considerably increased. This has naturally resulted in an increased demand for oil-seeds from India with the result that the production and the exports of oil-seeds have increased. Consequent upon the increased exports have followed the imports of oilseed-products into India. The accompanying table shows the imports of principal oilseed-products into India.

It may be pointed out that the value of these products imported into India is several times the price of oil-seeds which enter into their manufacture. Prof. G. N. Gokhale in his booklet "Practical Education" has worked out an interesting example with castor seed and has shown how India imports castor oil and has to pay several times the value of the seeds. We reproduce the same below.

"Take the instance of castor seed which we export in large quantities and import castor oil. The transaction can be shown as something like this:—

				Rs.	a.	p.
One lb. of castor seed	..	..	..	0	2	0
Freight to Europe	..	..	..	0	0	3
Packing in bottle	..	..	..	0	1	0
Return freight	..	..	..	0	0	3
				0	3	6
Labour & Profit	..	..	..	0	4	6
Total	..	..	..	0	8	0

which we pay in India for a 6 oz. bottle. Thus India pays four times the price as far as castor seed is concerned. The case of other products is no less interesting. The calculation copied above may not be quite exact but gives a very vivid picture of what happens as far as sending of oil-seeds and the receiving of finished products is concerned."*

This indeed is a great loss to India. The loss is not only confined to this but also extends to the oilcake which leaves the shores of India never to return, while the soil of India is getting impoverished day-to-day. It was this feeling of loss to India sustained through the exports on a large scale of oil-seeds, that prompted every witness who gave evidence before the Indian

*Prof. G. N. GOKHALE, *Practical Education*, p. 79.

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Statement showing the imports of different products into India in the manufacture of which Vegetable Oils wholly or partially enter (000) of Rupees.*

Articles.	Pre-war average.	War average.	Post-war average.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.
Vegetable non-essential oils	10,00	8,37	15,16	1,00,16	63,92	64,83	1,03,84	1,06,68
Paints and Colours	54,19	83,08	1,13,59	70,27	70,29	74,00	80,55	76,54
Soaps	61,87	96,45	1,71,16	82,63	78,37	63,20	34,27	26,86
Oil Cloth and Floor-Cloth	9,96	15,07	11,64	7,02	5,80	7,06	6,69	6,54
Stearine and Tallow	16,06	15,93	28,18	24,65	19,65	22,32	28,36	35,70
	1929-30	1930-31.	1931-32.					
Glycerine	2,86	2,76	2,65	3,13	3,76	3,90	4,28	4,70
Vegetable ghee and Vegetable fats, etc.	1,20	1,09	42,42	13,46	1,03	1,35	1,65	1,19
Lubricating oils	...	...	...	...	34,99	40,02	25,80	19,31
Other Lubricating oils	1,30,44	1,29,92	1,10,77	1,09,56	1,01,79	94,92	95,64	1,00,14

* *Accounts Relating to the Sea-borne Trade and Navigation of British India.*

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Fiscal Commission to suggest the imposition of an export duty on oil-seeds and even the prohibition of the export of oilcakes.

Mr. V. N. Mehta, I.C.S., Director of Industries, U.P., in his written statement to the Indian Fiscal Commission said:

"We want a duty on the export of oil-seeds so as to encourage their retention in the country and their utilisation in the manufacture of oils... It is not necessary to impose a heavy duty on export because thereby there is a danger of our disturbing the balance of trade and it should not be forgotten that our oil-seeds form a substantial portion of our export trade. The Continental countries that take our oil-seeds are Italy, Belgium, France, Germany, the United States and the United Kingdom. No import duties are levied on oil-seeds but heavy import duties are levied upon the import of oils."*

The Indian Fiscal Commission in their report pointed out the impracticability of the suggestions put forward and wrote the following in their report.

Proposed Export Duty on Oil-seeds Condemned.—"Many witnesses have advocated the imposition of a protective export duty on oil-seeds. The argument is, that a very large quantity of Indian oil-seeds is exported and that by imposing an export duty the crushing of oil-seeds would be encouraged with economic advantage to the country. This proposal, like all other proposals for protective export duty, is inconsistent with our general principles."

"In the case of oil-seeds we consider that such a duty would be particularly disadvantageous to the country. Certain oil-seeds are grown very largely for the export trade. The Indian demand for the oil and cake would be insufficient to absorb the whole product if all oil-seeds were crushed in the country. At the same time there are considerable difficulties in the export of oils; and it is unlikely that any appreciable export trade in oils could be built up. The main result, therefore, of imposing a protective duty on oil-seeds would be, that the producer would be sacrificed to an unsound economic theory, and that the production of a valuable crop would be discouraged."†

Use of Manures not likely to be Promoted by Export Duty.—"We have also received proposals that the export of manures should either be prohibited or discouraged by the imposition of a heavy export duty. From this point of view also an export duty on oil-seeds has been advocated, in order to retain within the country the oilcake which has a high manurial value. The advocates of this policy do not always stop to consider what would be the probable result. It is assumed that if the export of manures is stopped, the manures which are not exported will be used in India. But this is an assumption that cannot safely be made. There are at present two main obstacles to the increased use of manures by the Indian cultivators. In the first place, the cultivators are sometimes prejudiced against the use

**Indian Fiscal Commission Report, Evidence, Vol. I, p. 258.*

†*Ibid, p. 109.*

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of a particular kind of manure or have not been educated to an appreciation of its value. Secondly, the farmer is not in an economic position to buy these manures. It is difficult to see how the prevention of export of these manures would remove these two obstacles. Prejudice or ignorance will give way only to teaching and experience."

"On the economic side it may be argued that an export duty will reduce the price of oilcake for instance, and consequently, will stimulate its use by the cultivator. But it must not be forgotten that the reduction in the price of oilcake would be effected at the expense of the producer of the oil-seeds, and that therefore, this potential user of manure would be impoverished and might not be able to afford to use it even at the reduced price."

"We consider that under present conditions any action of this nature would merely waste a source of wealth in India without ensuring any compensating advantage. At the same time we fully realise the importance of encouraging the use of manures in India, and we think that a small cess might possibly be placed on the export of manures on condition that this cess should not go into the general revenues, but should be devoted to the encouragement of the use of the manures."*

Views of Another Section of People.—There is also a certain section of people in India who hold with the Fiscal Commission that export duty on any type of oil-seeds or oilcakes would do greater harm than good to India. Their views may be summarized as below.

1. In the first place, India does not hold a monopoly in the production of oil-seeds, and is, therefore, not in a position to dictate terms to the outside world. During the last twenty years India had to take a second place in the world's supply of linseed. The Argentine which at the beginning of the century was only beginning to export this seed now heads the list. Cotton seed, formerly a waste product, has now become one of the most important oil-seeds of commerce. Africa, which is being rapidly developed, already produces large quantities of oil-seeds and could grow many, if not all, the products now furnished by India. China is already a formidable rival in the production of sesamum. Roumania has become a serious competitor in rapeseed. It can by no means follow that India would gain by the imposition of export duties. On the other hand, it is feared that it might deflect the trade permanently to some other countries and do harm to the Indian cultivator.

2. An attempt to keep oil-seeds in the country by imposing an export duty would result in such a large supply of oils and oilcakes that it would be difficult to find proper use looking to the present industrial development in the country. Oilcake, which is so good to the cattle and the fields, would be a drug on the market as the farmers in India have prejudices against the use of oilcake which they have, as yet, not shaken off. It would unnecessarily depress prices. Moreover, the disposal of the oil would not be so easy as it seems, because

**Indian Fiscal Commission Report*, p. 110.

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the countries which require oils have imposed heavy protective duties on the import of foreign oils. Then, there are minor difficulties of oil containers, clearing and freight. Under these circumstances, it seems advisable to follow the policy of non-interference with the existing trade until the industries of India have developed sufficiently to absorb a large part of the extracted oil.

The Remedy Suggested.—Whatever the view of the advocates of unrestricted exports of oil-seeds and cake may be, we cannot help remarking, that the export of oil-seeds as well as oil-cakes in such large quantities is a great loss to the country, and that India would be a gainer if they could be retained and made use of in the country. In our opinion the only way of keeping them in the country is the greater industrialization in the country coupled with better education of the agriculturists to make use of oilcakes as manure.

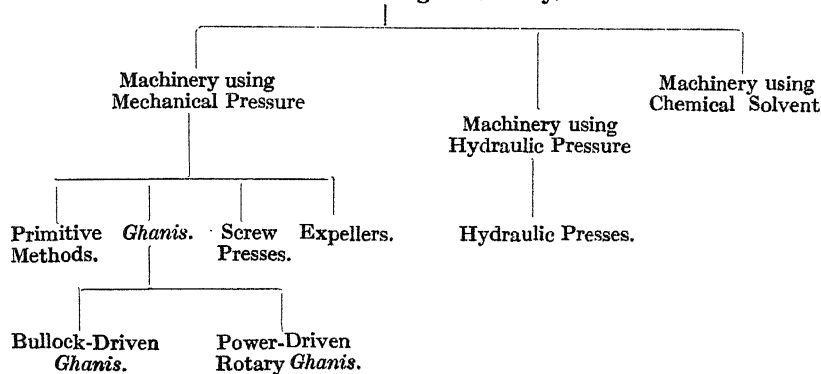
Problems of the Oilseed Crushing Industry.—After having established that India's present need is greater utilization of her oilseed-resources and their products in the country we come to the various problems connected with the oilseed-crushing industry in India:—

- (1) Suitable machinery for crushing oil-seeds.
- (2) Refining of oils.
- (3) Utilization of oils and their by-products.
- (4) Development of an export trade in oils.

1. Suitable Machinery

The first and foremost problem confronting the oilseed-crushing industry is the use of the most suitable type of machinery that would yield the maximum percentage of oil with the minimum expense. Oilseed crushing machinery, as used in India, can be divided under three heads, (1) machinery making use of mechanical pressure, (2) machinery using hydraulic pressure, (3) machinery using a chemical solvent. Under machinery making use of mechanical pressure come primitive methods of oilseed pressing, indigenous *ghanis*, screw presses, rotary *ghanis*, and oil-expellers; whereas under machinery using hydraulic pressure come different types of hydraulic equipments making use of open presses, semi-open presses, or cage presses.

Oilseed-Crushing Machinery.



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Seed Cleaning and Preparing Machinery.—Before we describe the different oil mill machinery it may be necessary to point out that almost all oil mill equipments must have seed cleaning and preparing machinery. Oil-seeds, that are usually available in the market contain many foreign bodies such as stones, husks, iron pieces, which may do harm to the machinery wherein they may be treated. Further, the oil produced from such material is rendered impure and acquires some colour on account of these foreign bodies. It is, therefore, necessary to separate these foreign bodies from the seeds. After the seeds are cleaned they are ground to a powder. By grinding the seeds to a powder, the oil cells in the seeds which contain oil are easily ruptured thus resulting in a somewhat higher yield. These disintegrated seeds are heated by steam so that the oil may flow out easily from the cells.

It is not usual for the small oil mill equipments such as the country *ghani* and the rotary *ghani* to have the preparatory machinery as in such cases the initial cost becomes too high to be borne by the small oil miller. But in every modern oil mill equipment such preparatory equipment must be considered to be very essential.

Machinery Utilizing Mechanical Pressure

Primitive Hand Press.—In certain parts of the Central Provinces oil is pressed by the aborigines by this very primitive type of oil press. The press is composed of a branch of a tree which is inserted in a hole at the base of another tree in order to form a fulcrum. At a distance of about 2 feet from the base of the tree, the branch is split and a stone is inserted in the split, this is then securely tied in position.

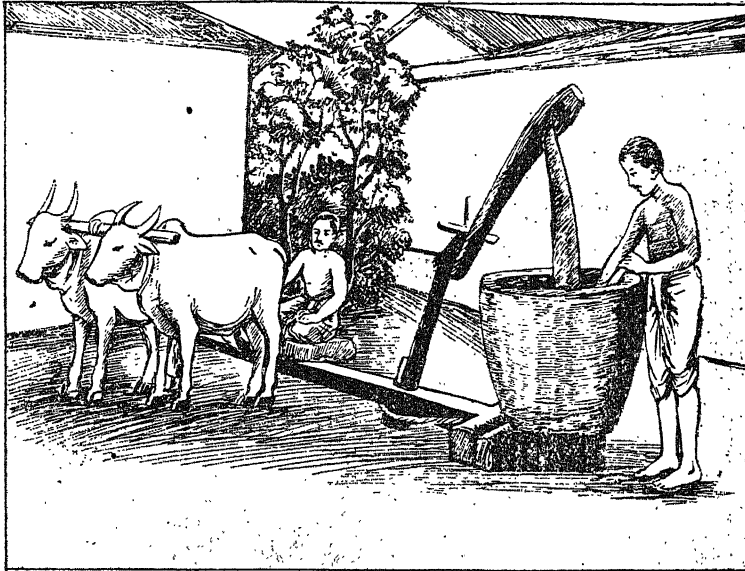
In order to prepare the seed before pressing, it is broken up and put into an earthen pot. This pot has a small hole at the bottom in which is inserted a piece of cloth. This pot is then placed over another pot containing water, this in turn is placed over fire which boils the water, the steam escaping through the piece of cloth. Thus the seed is cooked and moistened before pressure in a way similar to the methods used in large modern oil mills. The seed usually crushed in this way is mowra seed.

The prepared seed is placed on a larger stone which has a slight hollow on its upper side ending in a small channel. When the seed is placed in this hollow the stone attached to the branch is lowered on the meal.

Indigenous Ghani.—This consists of a wooden pestle and a wooden mortar. The pestle is made to move with the help of animal power. The wood of the mortar helps to press the seeds and rid them of their oil contents. This form of machinery has existed in India from time immemorial. This method of extracting oil is considered not only slow but also expen-

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sive in the long run. It is, perhaps, unwise to condemn wholesale the country *ghani* method of oil expression. There are certain oil-seeds for which the country *ghani* is most suited and the oil expressed is better in quality than the one obtained by any other machinery. This is notably the case in the case of sesame seed. Mr. A. F. Yuill in his bulletin No. 3 on the Vegetable Oil Industry in the Bombay Presidency writes:—



A Typical Indigenous Ghani

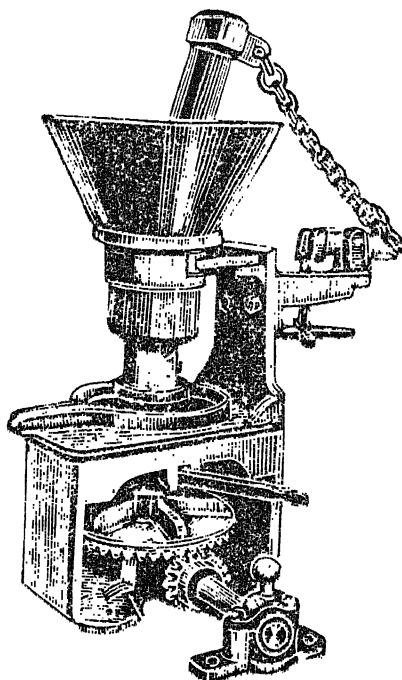
“The Indian method of production, *viz.*, expression in the country or rotary *ghani*, yields to none either in point of quality or of cost, and it is doubtful whether it will pay to instal expensive hydraulic machinery for pressing this seed (tilseed). Except in the case of cold drawn oil obtained by first pressing either in a cage or Marseilles press, the oil produced in a hydraulic press is darker, more bitter, and otherwise inferior to the oil produced in a *ghani*. It is after and not during expression that the bulk of the Indian oil is spoiled. Failure to effect the prompt separation of oil and mucilage, results in excessive development of acidity and the absence of facilities of drying and filtering the oil are responsible for the cloudy appearance of oil that is offered in the bazaar.”*

Rotary Ghani.—With a view to obviate the defects of slowness of the old type of bullock-driven country *ghani* an improved type of *ghani* called the Improved Rotary *Ghani* has been introduced. This is mounted on a substantial framework foundation, and can be worked by motive power. The initial cost of

*A. F. YUILL, *Vegetable Oil Industry in the Bombay Presidency*, p. 23.

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such an equipment is low, it can be run with the minimum of supervision and gives results which can be compared quite favourably with those obtained by the use of expensive hydraulic machinery. A rotary *ghani* resembles, to a large extent, a chemist's pestle and mortar, is under driven, and has an outlet for oil at the bottom of the mortar. Both pestle and mortar revolve and the former is held tightly against the inside of the mortar by means of a chain and a screw tightener. As the bowl of the machine revolves, the material under treatment is pressed between it and the pestle, until the oil flows freely away. After being sufficiently pressed the exhausted material rises to the top



Rotary Ghani
(Messrs. Volkart Bros., Bombay).

of the bowl and can be removed by the attendant who adds fresh material to replace that which is removed. Its simplicity enables it to be manufactured very cheaply in any foundry and dealing with most oil-seeds it is very efficient. For small equipments in countries like India no type of oil milling machinery offers so many advantages as that generally known as the "Improved Rotary Ghani." The only preparatory machinery required is that dealing with the removal of foreign substances and, in the case of castor seed, for scalding the beans prior to the treatment in the *ghani*. In small equipments such preparatory work is done by hand. Rotary *ghani* will treat, first cold and afterwards hot (as the result of the addition of some hot water), such oil-bearing

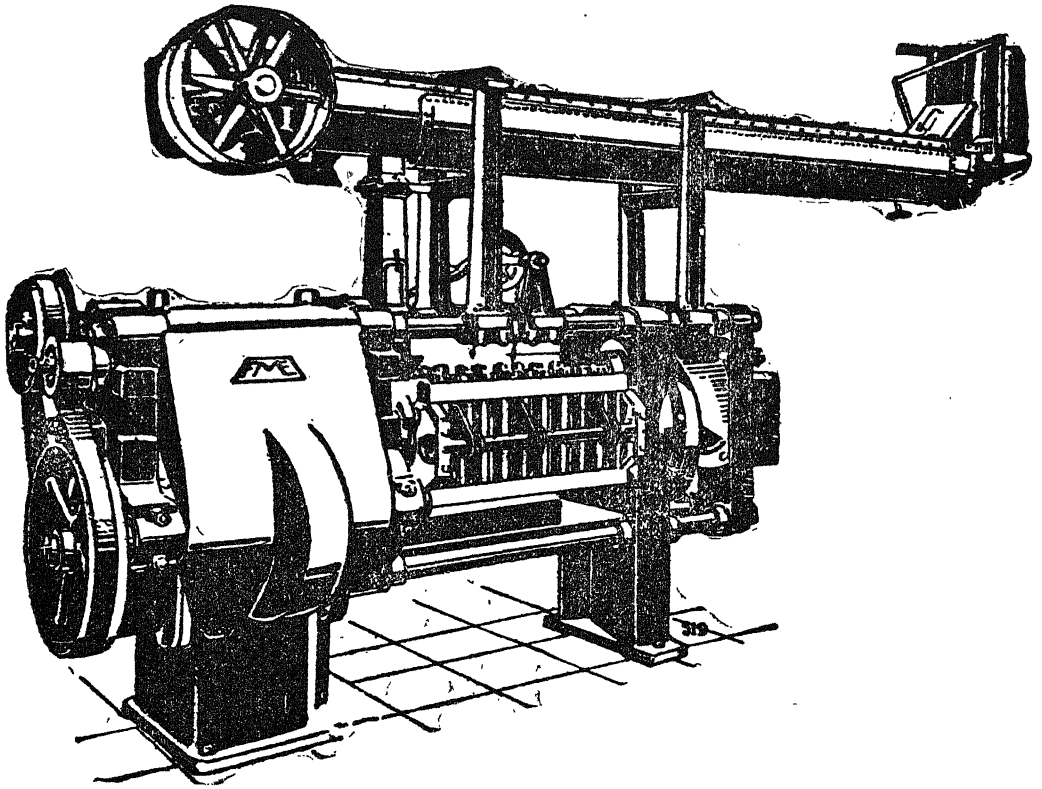
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materials as til seed, rapeseed, groundnut, copra and, in fact, most seeds which yield a liquid oil. It can also treat castor seed and fat-bearing nuts. A battery of ten *ghanis* will in 22 hours extract oil from 5 tons of oil-bearing materials and the actual cost of such an equipment with power will be about Rs. 5,000. Compared with other types of oil mill machinery, such an equipment is very low both in capital cost per ton, or of crushing capacity and in working expense. The only disadvantages of this type of machinery are, firstly, the fact that too much discretion is allowed to the operator, and with careless workmen partially exhausted material containing an excess of oil may be removed from the machine at too early a stage of the operation, and secondly, the fact that it is impossible to obtain cold-drawn castor oil* from the treatment of castor seed in this type of equipment.*

Oil Expellers.—The sale of this type of machinery has been very energetically pushed in this country for some years. The machine was originally introduced for the treatment of cotton seed, linseed and rapeseed. A large number of cotton seed oil mills in Texas (U.S.A.) installed Anderson Standard Expellers about 25 years ago. Since last few years different types of oil-expellers have been put on the market by the German, French and English manufacturers. Recently Messrs. V. D. Anderson and Co., Cleveland, Ohio, U.S.A., have put on the market the most improved type of oil-expellers known as Super-Duo-Expellers, the output of which varies from 8 to 13 tons per day and leaves only 5 per cent. of oil in the cake. Two other types of oil expellers used in India are the 'Krupp's Standard' and 'Sohler Type'. The latter is the more recent one and incorporates many improvements over the other types of expellers. Practically all the seeds have been tried in this expeller with satisfactory results. Even castor and mowra seeds, which used to present some difficulties while being treated in expellers, have been found to work well in this expeller.

The machine itself requires to be provided with the usual preparatory mahinery, *i.e.*, machinery for the cleaning, breaking, etc. of oil-seeds. In the machine a direct mechanical pressure or torsion of the material against the perforated or ribbed barrel and the resistance cone in front, is substituted for hydraulic pressure. When a certain pressure usually about 3 tons per square inch is exceeded, the exhausted material is forced out in thin sheets from the smaller end. With all very oily seeds, such as rapeseed, groundnut, copra, etc. double treatment is necessary. The first pressing may be carried out with cold or nearly cold material yielding cold-drawn oil; and the partially exhausted material can afterwards be ground, heated, moistened, and repressed, yielding ordinary hot-drawn oil. The oil yielded by this method is equal to that yielded by the hydraulic press system. These machines are useful for the first cold pressure of copra and other soft materials or for the re-treatment of partially treated material in rotary mills.

*A. F. YUILL, *Vegetable Oil Industry in the Bombay Presidency*, pp. 44-46.

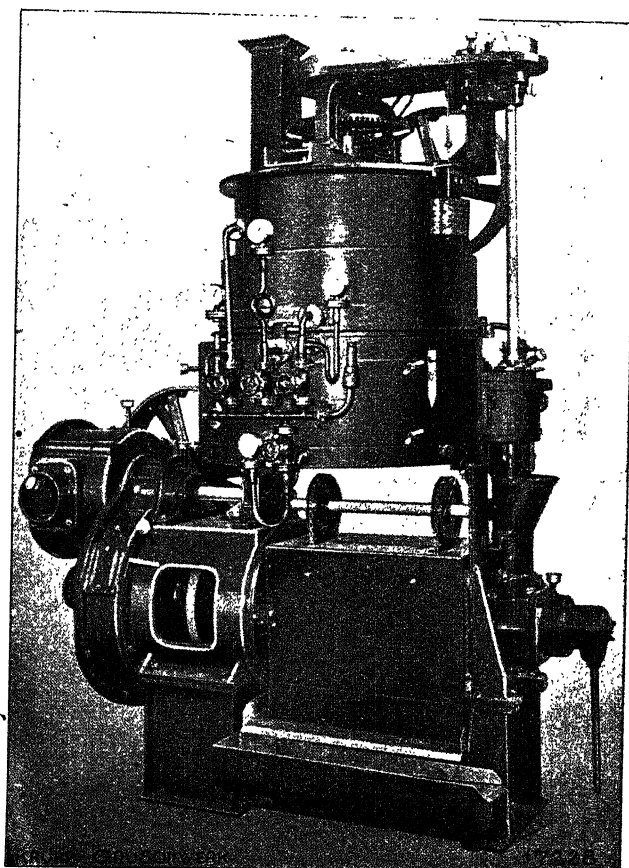


F. Muller's Oil Expeller.

(Sole Importers for India: Volkart Bros.)

Machinery Utilizing Hydraulic Pressure

American Cotton Seed Oil Mill Machinery.—This type of machinery is being used in America where large quantities of cotton seed are crushed every year. Some of these machines have also been bought over by the Industrialists in India. The preparatory machinery is adapted for removing dirt, foreign substances, and excess lint for bringing about an effective separation of kernels and the husks, for rolling the former to break down the oil as well as for bringing the oil-bearing material to the correct condition as far as heat and moisture are concerned; and for effecting its transfer to the press. Except that more cooking capacity is provided, the machinery up to this stage is similar in principle, if not in detail, to preparatory machinery in all oil mills. The presses, however, are peculiar; they are fitted with plates, which resemble boxes, the two ends of which have been removed. The spreading of the cooked kernels is prevented by the resistance of the sides, and the spreading from the ends is prevented by the folds of the press cloth. For dealing with seeds like decorticated cotton seed, such types of presses are very satis-



Oil Expeller Type 'Sohler'
(Manufactured by Messrs. *Fried. Krupp Grusonwerk, A.G.,*
Magdeburg, Germany.)

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factory, but should it be found necessary to change over and work other types of oil-seeds their disadvantages soon become apparent. Owing to the great thickness of the plate, a press of this type can only deal with about $\frac{3}{5}$ th of the quantity of the oil-bearing material per operation, which could be dealt with by a flat plate press of similar size. This means that a plant listed to treat say 40 tons of cotton seed per day, only 20 of which are actually dealt with in the presses, would treat about 20 tons of other oil-bearing materials, such as linseed, as compared with not less than 30 tons of material, which can be treated under the same conditions in an Anglo-American mill of similar size, referred to in the following pages.

This loss in production raises the cost and, in many cases, renders the whole operation unprofitable. Equipments of this type are working satisfactorily in the Bombay Presidency. The average percentage of oil left in Indian decorticated cotton seed cake after expression in such presses is between 9 and 10 per cent. There are, however, American records of cakes from similar presses showing less than 6 per cent. of oil. But such results are exceptions rather than the rule.

Such mills, without the addition of an extra machinery, are quite unsuitable for the treatment of seeds or nuts like castor, groundnut, etc., which, for the best results, require to be pressed first cold and afterwards hot.

Anglo-American Oil Mill Machinery.*—As far as the actual out-turn is concerned, this type of machinery is probably ahead of the American type. Most of the English Oil Mills are equipped with this machinery, as also are a considerable number of oil mills on the Continent of Europe and elsewhere. The name Anglo-American is, however, somewhat of a misnomer, the only part of the equipment which resembles closely its American counterpart being the rolls.

Description of the Plant.—The plant usually consists of a cleaning and preparatory machine suited to the material which is to be treated; a stack of heavy chilled rolls; cooking kettles; steam or hydraulic cake forming machinery; belt driven hydraulic pumps connected to accumulators, which in turn operate the presses; cake paring machines and edge runners for grinding up the parings and press sludge, for finely grinding materials such as undecorticated cotton seed or for re-grinding once pressed material to prepare it for re-pressing.

These edge runners have long been the most distinctive part of the Anglo-American equipment, and they are perhaps the most useful machines which can be installed in any oil mill. It would appear, however, that there has lately been a tendency on the part of the manufacturers of oil mill machinery to discard these most useful machines and to substitute for them breaking and disintegrating machines.

Anglo-American machinery is able to treat, in a fairly satisfactory manner, almost every known oil-bearing material from

*A. F. YUILL, *Vegetable Oil Industry in the Bombay Presidency*, p. 35.

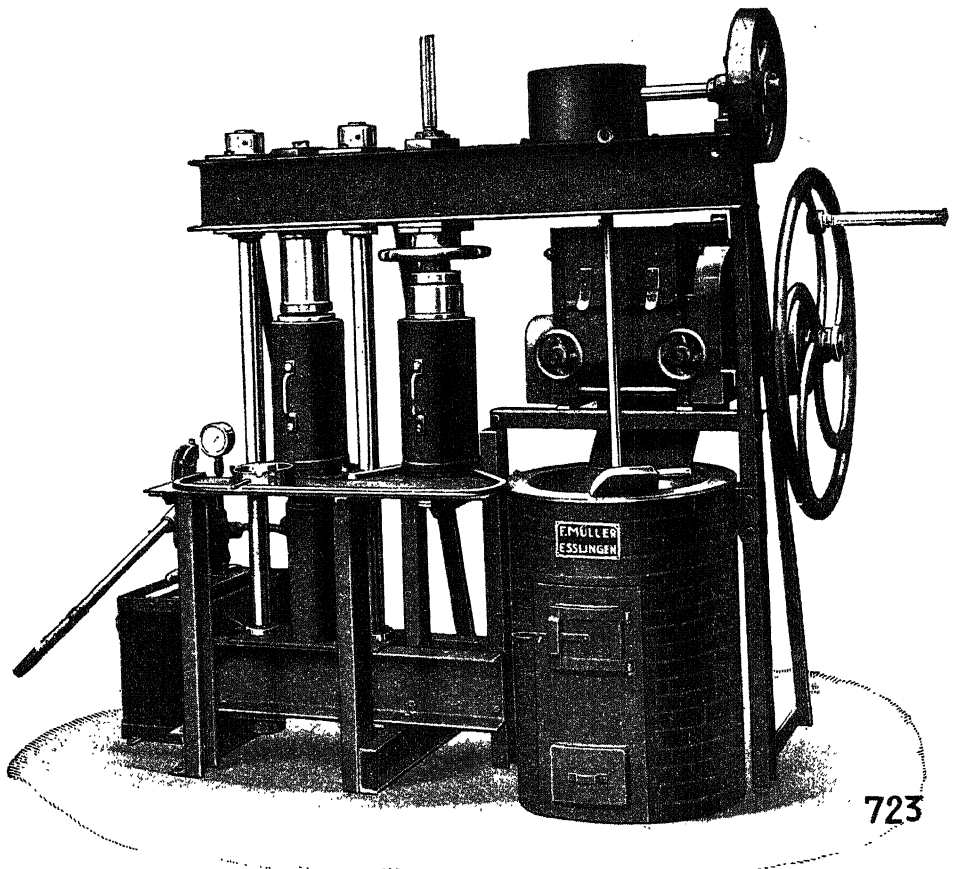
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comparatively dry seeds like cotton seeds or soya beans to very oily materials such as castor seed, groundnut and copra. It is suitable for single pressing materials such as undecorticated cotton seed or linseed, or for the double pressing of groundnut, castor seed, etc. It will be apparent, therefore, that this type of plant is particularly suitable for use in countries which have to import their raw materials, and for manufacturers, who have a choice of many different kinds of oil-seeds, all of which, they wish to treat in the same plant. The Anglo-American plants are built in various sizes, the smallest will crush about ten tons of seeds per day, while mills of this type to crush over 1,000 tons of seeds per day have been erected.

Its Suitability and Unsuitability for Certain Seeds.—Except in the case of undecorticated cotton seed cake the oil content of which is usually under five per cent. or of the cake from double pressed materials such as castor seed, groundnut, etc., cakes from Anglo-American plants usually contain between nine and ten per cent. of oil. This is due to the fact that only limited pressure, e.g. 18 cwt. to 20 cwt. per sq. inch can be applied to materials which are not properly confined. In certain cases, where trade customs demand a minimum oil content in the cake as, e.g., in the case of linseed, Anglo-American machinery will be found quite suitable; while, on the other hand, if oil is the only consideration better results can be obtained by using specialised machinery of the cage type. Anglo-American plants are, however, unsuitable for the manufacture of cold-drawn oil, the demand for which for edible purposes is increasing. Certain oil-seeds such as til seed cannot be satisfactorily treated in Anglo-American plants owing to the fact that the steam employed therein liberates colouring matter from the seeds and the resulting oil is dark and inferior.

American Linseed Oil Machinery.—This type of machinery is largely used in America for crushing linseed and other small seeds. It differs from the Anglo-American type in the fact that edge running grinders are not provided. It is, therefore, unsuitable for the treatment of an oil-bearing material which requires to be pressed doubly or for the manufacture of cold pressed oil. The capital cost of an equipment of this type suitable for the treatment of linseed, etc., will be same as that of American cotton seed oil mill machinery. The cost of working this machinery is similar to that of Anglo-American oil mill. One advantage, however, possessed by this type of plant is in regard to the provision of sufficient cooking kettles for bringing the ground material to the best possible condition as regards temperature and moisture, which results in larger percentage of oil-extracted and lower percentage of oil left in the cake.

Cage or Clodding Types of Press Equipments.—In equipments of this type the material under pressure is effectively confined in cages or baskets either of perforated sheet iron or of iron bars correctly placed and reinforced by circular hoops. Increased pressure up to about 3 tons per square inch can be utilised and



*F. Mueller's Hydraulic Press Plant.
(Sole Importers for India: Volkart Brothers.)*

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heavy expenditure on cloth is avoided. The cake residue is retained in the cage and the expressed oil is allowed to flow freely away. Very oily materials can be treated either cold or hot in equipments of this type. If superior cold-drawn oil is required, the material can first be treated cold, and the residue, after re-grinding, can be treated hot. In this way the maximum quantity of the best oil can be obtained. All kinds of oil-seeds can be treated, but separate arrangement has to be made for different oil-seeds as different spacing will have to be done in the bars of the cage. This type of equipment is largely used on the Continent of Europe and particularly in the United Kingdom.

It is also possible to make use of combined machinery of the Anglo-American type and the fixed cage type. The material is first treated cold in a cage press, where it yields about 75 per cent. of the oil contents. The half-pressed cake is then transferred after disintegrating to the cooking heaters of the Anglo-American plant, where it is subjected to further pressure. Such equipments are working in India on castor seed and other seeds. The cost of such a combined equipment is, however, high.

Chemical Extraction

This is the latest, and perhaps, the most efficient method of extracting oil from oil-seeds. By this method it is possible to extract even the last traces of oil in oil-seeds. Roughly speaking, the process of extraction consists in percolating the solvent through the ground material in order to dissolve out the oil contents of the oil-seeds. The solvent mixture is afterwards subjected to the process of distillation, the solvent being condensed and used over again, while the oil is recovered and treated in various ways to eliminate all traces of the solvent. In recent plants, the above process has been considerably modified and various economies in transmission have been effected, but the principle of operation remains the same. The percolation may take place in a single tank or in a battery system. The latter system enables the solvent to be passed in succession through different tanks, until it becomes fully saturated with oil. A considerable economy in distillation is thereby effected. This method of extraction, although very efficient, is not found feasible in India on account of certain objections which are raised against it.

Objections against the Method.—One important objection raised against this method is, that it extracts the oil so effectively from the seeds that the residue of meal is next to useless as a cattle food; and at best, is fit only for manure. Secondly, it is stated, that it is impossible to eliminate entirely all traces of the solvent used, both from the oil and the cake, so that the oil is made unfit for edible purposes and is fit only for soap-making and kindred purposes, while the unusual taste or smell of the solvent left in the meal provides another reason why such meals should not be given as food to the cattle. Some of the objections are sound and it may be due to these objections that such a method of extraction has not found favour in India. As far as the writer is aware, the only factory working in India on a commercial scale for the extraction of oil from any oil-bearing material is in

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Calcutta, named, Indian Oil Products, Ltd. It has for some years been extracting oil from the bazar oil cake, and disposing of the extracted meals to the tea gardens. The oil produced is mainly sold to soap makers. The solvent used by this factory is Benzin, which being the cheapest solvent available is also largely used in Europe. Carbon bi-sulphide which was formerly the principal solvent is now not being used because of its highly inflammable nature. Another mill has recently been started at Kalyan near Bombay.

Suitability of the Method.—The chemical extraction method is, on the whole, unsuitable for the original treatment of oil-bearing material, both or even one product of which is to be used as food, either for man or animal. When, therefore, as in the case of oil-seeds like linseed, cotton seed, copra, groundnuts etc. there is a large and unsatisfied demand for the resulting oilcakes, it is obviously unwise to turn a useful product into a manure. On the other hand, in the case of rapeseed, the cake from which is only in moderate demand or of castor seed the cake from which can be utilised as manure, or of forest products such as mowra seed, the residue from which is useful as a fuel, extraction by chemical solvent may prove to be the most satisfactory method of dealing with such materials. Care must, however, be taken to see that the process is without injurious effects on the oil-products.

The cost of erection of such a plant may be roughly estimated as being about fifty per cent. higher than that of hydraulic equipment of the same daily or hourly capacity, while the working charges will probably be in the same proportion. The only advantage possessed by the extraction by the solvent method over the hydraulic system is the greater yield of oil. The residue resulting from extraction contains about two or three per cent. of oil as compared with an average of ten per cent. in the case of hydraulic press cakes. Against this advantage is to be placed the inferiority of oil products. The injury to workmen resulting from highly inflammable nature of the solvent may also retard the development of this system of oil extraction in India.

Comparative Efficiency of Different Types of Machinery.—We have had a survey of the different types of mechanical, hydraulic and chemical machinery which is being used in India for purposes of oil expression or extraction. We find that there is hardly one type of machinery which can be safely recommended for all types of oil-seeds. Bullock-driven country *ghanis* give very good results with niger seed, copra, sesame seed, and kardi seed. They do not appear to be equally efficient in dealing with groundnuts. From the economical point of view they must be considered as wasteful, as a large part of the oil is left in the cakes. However, these *ghanis* cannot be done away with entirely as they are quite essential in small villages where the local consumption is very small and where these equipments provide means of livelihood for small families. Power-driven rotary *ghanis* are an improvement upon the indigenous *ghanis*, but they, again, cannot be considered as economical as other power-driven

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machinery. They give good results with castor seed, and even groundnut. In fact they ought to treat satisfactorily all those seeds what can be treated in a country *ghani*. Hydraulic presses are costly and cumbersome and require expert attendance. Moreover, the wear on the press cloth is very heavy and constitutes a large item in the working expenses. This type of equipment is extremely useful when cold-drawn castor oil is required. Solvent extraction plants are not quite suitable to Indian conditions on account of reasons explained above although from the point of view of oil-yield they are the most efficient. The modern tendency is to instal expellers in place of hydraulic presses. These machines are quite simple and a battery of them can be attended to by one or two coolies. So we find that total scraping of indigenous machinery as existing in villages and town is not quite advisable. It can, however, be supplemented by more suitable machinery where circumstances need such addition.

2. Refining of Vegetable Oils

Another problem of the Vegetable Oil Industry is the refining of oils as obtained from any of the methods described above.

The art of oil refining has long been looked upon as a mysterious business, requiring for its successful practice the possession of secret knowledge and exceptional skill. More recently, however, owing to the great development of chemical science, the changes involved in oil refining have come to be better and more generally understood. Great improvements also, both in regard to methods and equipment, have been effected within recent years. However, in spite of all that has been written on the subject, oil refining is still looked upon as being a complicated business, which had better be left to experts. The want of adequate supply of such experts is considered by some responsible for the slow development of the Indian Oil-Pressing Industry and for the inferiority of much of the oil met with in the bazaar. While knowledge of Chemical Science is of great value in dealing, on a large scale, with some of the more complicated problems of oil refining, it is by no means essential, especially when dealing on a small scale for the oil refining problems of India. In many cases the early application of common sense methods would effect an enormous improvement in the existing conditions and obviate entirely the necessity for more drastic chemical treatment. Especially is the application of common sense methods necessary in regard to the treatment of oil-bearing materials, previous to, and during the actual pressing operations, so that the resulting oil product may require only the minimum of treatment to fit it for use or for storage. "Neglect of the raw materials, especially during the monsoon season, is responsible for much of the excessive acidity of oils produced thereafter, while the improvement in the oil product which might be brought about by careful attention to the previous removal of all dirt, broken seeds, shells, etc., from the raw material is not generally appreciated. Again, the necessity for strict cleanliness in oil milling operation does not appear to be understood by most of those engaged in the industry. Piles of

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half treated materials are allowed to lie fermenting for days on the floors of the oil mills before they are finally disposed of. The utilisation of press sludge, too, is often delayed until it begins to smell strongly, which means that hydrolysis has set in, and that the oil obtained from it will be of inferior quality. Strict cleanliness and attention to details such as those mentioned above will, especially in the case of oils obtained by cold or nearly cold-pressure, go far to obviate the necessity for drastic chemical or other treatment.”*

Chief Impurities in Vegetable Oils.—All oils, whether obtained by mechanical expression or chemical extraction, are more or less impure and require some sort of treatment to fit them for use or for storage. Even when produced by cold-pressure from fresh material and under the best conditions, they contain moisture and mucilaginous material which, if not removed, leads to hydrolysis and de-composition of neutral glycerides.

The chief impurities present in oils are:—

- (1) Dirt and other matters foreign to the seeds.
- (2) Solid matter from the seeds.
- (3) Mucilage.
- (4) Free fatty acids.
- (5) Colouring matter.
- (6) Substances imparting taste and smell to the oil.
- (7) Moisture.

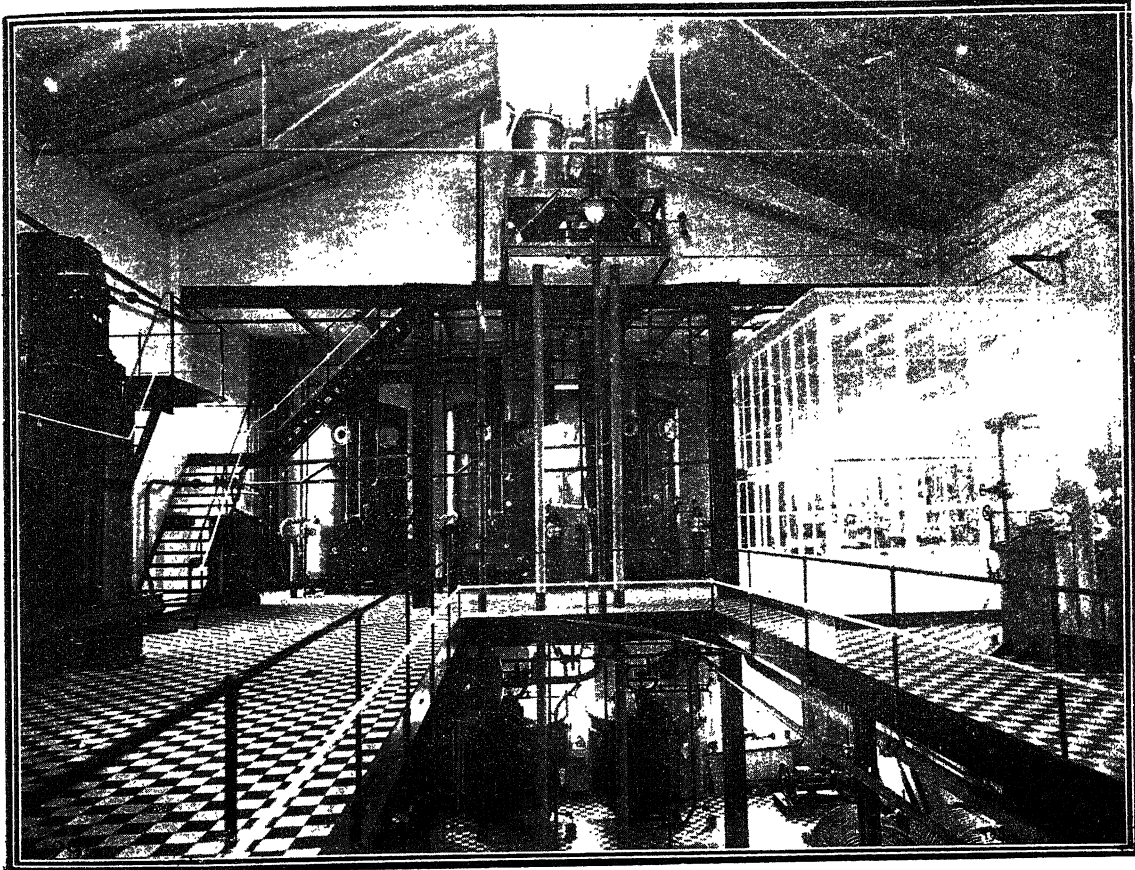
The problem of refining oils, therefore, resolves itself into the elimination of the above impurities from the neutral oils. The processes employed in refining oils are comparatively simple if the raw material from which oil is obtained is clean and dry, while oils obtained from inferior raw materials and by hot pressure are found to contain more impurities, and as such, require more drastic treatment than oils obtained by cold pressure and from fresh material. The processes employed in oil refining are either mechanical or chemical or a combination of both. Thus, dirt, solid matters and mucilage are removed mechanically. Bleaching is generally effected chemically but is frequently accomplished by what is really a mechanical process. Free fatty acids are removed by chemical reaction.†

Removal of Dirt and Mucilage.—This refining aims at the removal of dirt, mucilage, etc., in the oil. Formerly, it was conducted simply by stirring the oil and allowing it to stand in storage tanks, for prolonged periods, sometime extending to years wherein the foreign matter gradually settled to the bottom, leaving the clear oil on the top. Modern practice now makes use of filter-presses, and so, very greatly economizes both time and space.

Filter press is used in many industries for effecting the separation of solids from liquids. It is made in several modifications, but always follows the principle of forcing the liquid to be

*A. F. YUILL, *Vegetable Oil Industry in the Bombay Presidency*, p. 58.

†W. T. CHALMEES, *The Production and Treatment of Vegetable Oils*.



Refining Plant of most up-to-date construction.
(Manufactured by *Messrs. Harburger Eisen-U Bronzwerke, A.G.,*
Harburg-Wilhelmsburg.)

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filtered through a layer of cloth. The oil is driven into the filter press by means of a belt-driven pump, which is provided with a relief safety valve. The oil filters through the canvas cloth, and collects down in a chamber from which it can be drawn off. As usually supplied, these filter presses may have anything from six to forty-five chambers, the dimensions of the plates varying from 13" to 40" square. The thickness of the cake left in them varies from 1" to 1½". Little can be said as to the output, for this varies from oil to oil, and with the oil according to its previous treatment, and whether or not it is filtered, hot or cold. As a guide, however, it may be said that a press with twenty-four chambers and plates 25" square giving a total filtering area of 208 square feet may be expected to filter in 24 hours about 40 cwt. of linseed, coconut, or olive oil; 100 cwts. of cotton oil, 70 cwts. of rape or 60 cwts. of castor-oil. These filter presses, after they have worked for sometime, are opened for cleaning and the filter cloth is washed in a special machine for washing filter cloth.

Removal of Free Fatty Acids.—By the removal of free fatty acid from the crude oil, the oil is deprived of an element which gives it a characteristic odour and taste; and which renders it liable to decomposition. At the same time its colour is probably improved for the free fatty acids are a cause of discolouration, in addition to the colouring matter absorbed by the oil from the husks of seeds during its extraction.

The standard method of removing the free fatty acids is to treat the crude oil with caustic soda solution, carefully regulated in strength and amount, and at a carefully regulated temperature. This soda solution combines with the free acids to form a soap but is not sufficient in amount to go further and saponify any material amount of the neutral oil. It is here to be noted, that more caustic soda has to be added to the oil than is theoretically necessary to neutralise the percentage of free acid revealed by analysis in the crude oil. Surplus soda does not, however, attack the neutral oil unless of course it is permitted to be present in an altogether excessive amount. The reason, both for the procedure and of the result, lies in the fact that the action between the given amount of caustic soda and a given amount of oil will cease at a point short of completion, at which a state of equilibrium is established between the amount of soap formed, the amount of oil and of caustic soda left uncombined.

On the neutralisation of free fatty acids being completed, there is thus left in the refining kettle a mixture consisting of soap, acid-free oil, and caustic soda in solution. The mixture is allowed to stand for some hours to permit the soap, soda solution and any mucilage or albuminous matter to sink to the bottom, while the oil rises as a clear liquid to the top. The clear oil is thus drawn off for further treatment. The residue at the feet of the kettle, containing as it does a certain amount of neutral oil besides the soda, etc., is removed separately and is sold to the soap-makers as "Soap Stock." To facilitate the settling out of soap, etc., from the oil, salt is sometimes thrown into the kettle for soap is insoluble in salt water. The clear oil is next washed

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with water to remove all traces from it of the soda. Thereafter, it is treated in a vacuum still, to drive off any volatile fatty acid which may linger in it as well as the last traces of moisture left in it, by the washing process. A vacuum still is used in order that the volatile acids and the moisture may be driven off at a temperature below that which will deleteriously affect the oil.*

Bleaching of Oils.—The oil may or may not now have to be bleached. If it is to be used for edible purposes, it is desirable that it should be bleached. Bleaching is done generally by means of "Bleaching earth" known as Tonsil or such like absorbent material. Treatment with "Tonsil," or animal charcoal not only helps to bleach the oil, but also assists in deodorizing it. The process consists in thoroughly stirring the dry absorbent powder into the oil when gently heated; and after agitation for a short time in pressing the liquid through a filter press such as described above. The earth or charcoal with the absorbed colouring matter is retained in the filter-cloth while the clear oil is drained off. The filter press is usually arranged to permit steam to be blown through it after filtering is completed. In this way the cake is washed free from oil, so that on the press being opened the earth falls out as powder.

It may surprise some to learn that oils can be bleached in the above purely mechanical manner. The explanation of the matter lies in the fact that the colouring substance in the original seeds is, in general, in the form of a powder, and passes as such into the oil. It can, therefore, be absorbed and held back by the earth or animal charcoal. It will be noticed that this method bleaches the oil by the direct removal of the colouring matter. A similar end is achieved by the Sulphuric Acid method which is employed occasionally for bleaching certain oils. The acid de-hydrates or chars the colouring matter and other impurities, and causes them to coagulate so that they may readily be removed by filtration or sedimentation. This treatment incidentally secures the removal of any moisture by reason of the strong attraction for water possessed by sulphuric acid. As, however, some acid may remain behind in the bleached oil the method is not usually adopted if the oil is to be used for edible or lubrication purposes.

Many other methods of bleaching oils by means of chemicals or otherwise are practised, but it is not necessary for us here to discuss them. We need only remark, that one of the oldest and one of the very best methods, is the exposing of oil to the action of sunlight and air. This process results in the removal of the colouring matter by oxygen and is extensively adopted, in the case of linseed, poppy and walnut oils. It is, of course, a very slow method. Recently, the bleaching of oils by means of ultra violet rays has also attracted some attention.

Deodorizing of Oils.—Where the retention of the characteristic flavour of an oil is not desired, as for example, when the oils are intended to be used for the manufacture of butter substitutes or cooking fats, or, as in the case of cotton seed oil, where it

*T. W. CHALMERS, *The Production and Treatment of Vegetable Oils*, p. 29.

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is desired to eliminate the unpleasant odour which makes itself felt, the oil is first heated to a temperature higher than the boiling point of water, and then treated in what is called a deodorizer. Oils to be treated in this way should be as nearly neutral as possible, as oils showing excess acidity cannot be satisfactorily treated. Deodorizers may be either of the atmospheric type or the vacuum type. In the former type the oil is subjected to the heat of both closed and open steam coils. The former should be sufficient to raise the temperature of the oil to the temperature of the steam while the latter should be sufficient to maintain the oil in an exceedingly vigorous state of ebullition, thus enabling all unpleasant odours to escape into the atmosphere. "Some oils can stand higher temperature than others. Cotton oil for example, requires to be treated five to six hours at 300° F. Groundnut and til seed oils can be deodorized in about four hours at about 270° to 280° F. Coconut oil should not be treated over 280° F., and it can be deodorized in two about hours."*

In the vacuum type of deodorizers the oil is similarly treated but at reduced temperature and pressure, and, in consequence, there is less likelihood of damage to the oil.

3. Utilization of Oils and their By-products

Having stated the different methods of extraction of vegetable oils and having outlined the processes of refining them, we next come to perhaps the most important problem connected with the Vegetable Oil Industry in India, viz., the utilization of vegetable oils and their by-products. Vegetable oils form the basis of a very large number of industries. We give below a table showing the different uses to which vegetable oils are being put in European countries. There is no reason why India should not, in time to come, be able to make use of her vegetable oil resources in the manufacture of these products and many more. But for the present we propose to be content with some of the very important outlets for the products of an expanded Vegetable Oil Industry. These outlets can be mainly classified under the following heads:

- (1) Oils for edible purposes.
- (2) Oils for external use on the body.
- (3) Oils for illuminating purposes.
- (4) Manufacture of soaps.
- (5) Manufacture of paints and varnishes.
- (6) Manufacture of compound lubricants.
- (7) Manufacture of ghee and butter substitutes.
- (8) Manufacture of oil-cloth.
- (9) Manufacture of candles.
- (10) Manufacture of tallow substitute.
- (11) Manufacture of glycerine.
- (12) Manufacture of stearine.

(1) **Oils for Edible Purposes.**—The demand for oils for edible purposes is undoubtedly on the increase in India. This particularly applies to such edible oils which are being more largely

*A. F. YUILL, *The Vegetable Oil Industry in the Bombay Presidency*, p. 63.

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The following list comprises a number of articles which are made from these oils in other countries and the uses to which they are put:—

Name of the oil	Articles	Uses.
Mowra oil	Butter substitutes Lard Chocolate fats Soap Candles Glycerine	Confectioners and bakers. "Confectioners Household and Textile Household Domestic and manufactu- ing purposes. "
Mustard oil	Refined edible oils Lubricating oils (blended) Liniments Soap Glycerine	Food Motor cars Medicinal Household The Steel Industry uses this oil in large quantities.
Linseed Oil	Edible fats Boiled oils Oil cloth Linoleum Tarpaulins Vulcanised oils Patent Leather Soap Glycerine Leather substitutes Hydrogenated oil	Biscuit making Paints and varnishes
Sesame oil	Margarine Salad oil Hair oil Cooking oil Soap and Glycerine Hydrogenated oil	Edible purposes "Domestic purposes "
Castor oil	Medicinal oil Lubricating oils (blended) Turkey red oils Soap Vulcanised oils Rubber substitutes Glycerine	Medicinal purposes Motor cars, aeroplanes Textile dyeing and leather trades.
Poppy oil	Edible oils Salad oils Artists' paints Soap Glycerine Tooth pastes	Domestic purposes "
Groundnut oil	Vegetable ghee	Domestic purposes.

NOTE :—The above list has been collected from the *Oilseed Crushing Industry of the United Provinces* by J. A. HARE DUKE.

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used in place of ghee or as complement of ghee, the price of which has increased to such an extent as to be out of the reach of the poor. Not only this, but certain parts of India have been using, to this date, oil for edible purposes irrespective of the price of ghee in those parts. The partial substitution of oil for ghee in the army ration, sometime ago, is symptomatic of the change which is taking place all over India and more particularly in South India. The total increased demand for oil must consequently be considerable. This demand will undoubtedly go on increasing. In India, which is a country of the poor, and where the average income of an individual is extremely low, the question of the poorer classes making use of pure ghee is out of question, and as such, demand for edible oils is sure to be very large. Thus there is a large home market for the vegetable oils in India which needs better and more scientific exploitation.

(2) **Oils for External Use.**—Some oils like coconut oil, sesame seed oil, rapeseed oil and castor oil have been used in India from the earliest times for anointing the body as well as the head. There is a verse in Sanskrit the translation of which reads as follows:—*Oil is ten times more useful than ghee not for eating but for rubbing over the body.* The custom of rubbing oil over the body prevails largely, with perhaps religious sanctity, in South India, where every one, male, female and child must have his weekly oil bath. The custom also exists in Northern India, where rubbing of oil over the body and the head is considered good for health and a tonic to the skin.

Manufacture of vegetable hair oils presents an unlimited field in India, for the simple reason, that the application of oil to the hair is almost a necessity in India. Hair oil not only imparts softness and lustre to the hair, but also invigorates their growth. Hair Oil Industry is one of the very old industries in India and seems to have flourished during the Mahommedan period when every one was fond of scented oils. On account of the importation of hair lotions and oils that have taken place during the last century this industry in India has fallen upon evil times. But the inadvisability of using hair oils, the base of which is mineral white oil, has been brought home to the people with the result that there is an overwhelming majority in favour of "back to the vegetable hair oils." In a country which has a plentiful supply of vegetable oils the desirability of importing hair-oils is nothing but ridiculous. The industry does not involve any very heavy expenditure on machinery nor any skilled manipulation nor any large capital. All that is required is the base oil which needs refining and mixing with other oils to make the liquid of sufficient consistency and the scent to perfume the same. This coupled with attractive packing and advertising is sure to make this industry a great success in this country.

According to the Ayurvedic system of medicine vegetable oils, particularly those of rapeseed and coconut, can also be used for cleansing the nose, ears and even eyes, and there are many who regularly do so. Thus, demand for certain oils in India for external uses is small in no degree.

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(3) **Oils as Illuminants.**—Some oils when burnt in a lamp give bright and cooling light. They have been used in India as illuminants from time immemorial, but have been recently replaced by cheap mineral oils, which have entered the very remotest corners of the country. Mineral oils are not very good illuminants, as their constant use is said to affect the eyesight adversely. Under the circumstances there is also a wide scope for the vegetable oils in villages provided a suitable lamp which would allow vegetable oils to burn smoothly be invented.

(4) **Manufacture of Soaps.**—Another use for the vegetable oils in India is the manufacture of soaps which can utilize both refined as well as un-refined oils. In spite of the fact that there exists a prejudice against the use of imported soaps, India used to import every year household as well as toilet soaps to the extent of about a crore of rupees. This shows that demand for soaps in India is very large.

Process of Manufacture.—There are two distinct methods of making hard or soda soaps, *viz.*, the hot-pressed and the cold-pressed. The latter has a restricted application and is not of sufficient importance to be considered here. Under the hot pressed the sodium is presented to the fatty acid of the oil or fat in the form of an aqueous solution of caustic soda. This solution is added gradually to the oil or fat in a special kettle, the whole being kept boiling. The soda solution is added gradually to the oil or molten fat in the kettle. If it is added too rapidly the saponification process is retarded. The total amount of soda solution mixed with the oil or fat must be more than the quantity theoretically necessary to saponify completely the substance. The excess is required because if the theoretical amount only is used, a point is reached at which the soap formed up to that point, the oil or fat yet remaining to be saponified, and the alkaline solution corresponding to this quantity of oil or fat will establish an equilibrium and further saponification of the remaining oil will not take place. When the boiling operation is completed, the kettle contains, first, soap, and secondly, water, in which are dissolved surplus caustic soda and the glycerine set free from oil or fat.

Various impurities from caustic soda and some animal or vegetable tissue or other non-saponifiable matter from the caustic soda or fat used will also be present. The mass in the kettle, for the moment, is more or less a clear homogeneous substance. Soap, however, is scarcely, if at all, soluble in salt solution. Therefore, some dry common salt is also thrown into the kettle and the whole contents are thoroughly boiled up again. The salt entering into the solution causes the soap on cooling to separate out on the surface. The aqueous liquor below the soap containing caustic soda, salt and glycerine in solution is run off through the bottom of the kettle and sent to the glycerine-recovery department. The soap layer is now boiled up again with water and again salted out. The aqueous liquor is run off and the boiling and heating process repeated a third time. Thereafter, the soap left when the third liquor is drained off is given

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a final boiling with water in order to hydrate it to the correct degree. Subsequently, it is allowed to stand for some few days undisturbed. At the end of this time it is found to have separated into three layers. At the foot there is a small layer of alkaline liquid. Intermediately, and amounting to about a third of the whole mass in the kettle, is a layer of dark coloured soap called "nigre." This substance contains traces of soda and salt solution, and owes its dark colour to the presence in it of soaps of iron, copper and other metals. Above this is the "neat soap," which being practically pure and neutral is in a condition to be used. Further the "neat" soap is made to go through a process of crutching, wherein colouring, scenting or other matters are added to it. Among such other matters are various "fillers" such as clay, talcūm, chalk, barytes, seed-husks, asbestos, magnesium salts and starch. These substances increase the weight of soap and are frequently regarded as adulterants. In some cases soap is filled with either the borate, carbonate, or silicate of soda. These fillers have themselves distinct cleansing properties so that, their addition is not strictly to be considered as adulteration. The soap is then cut into slabs, dried, stamped and milled, to obtain the soap of commerce.*

Soap Industry in India.—It is perhaps a happy sign of the times that the Swadeshi movement has given a great impetus to this industry among other industries, and we find several new soap factories started or revived during the last five years with the result that several types of high class toilet soaps are placed on the market. Special mention may be made of the Godrej Soap Factory of Bombay, The Tata Oil Mills Co., Ltd., the Bengal Chemical Works of Calcutta, the Kerala Soap Factory of Calicut, the Himani Works of Calcutta and the Mysore Government Soap Factory, which have been able to produce toilet soaps of a high quality in no way inferior to the imported stuff. Some of these factories were almost dying; and when the Swadeshi movement started, it came to them as a great boon. It is difficult to give an exact number of the soap factories, both large and small, in India. But it appears that even this number is not enough for the teeming population of India and that is why India has still to import soap worth several lakhs every year. It may be pointed out that several of the small soap factories contain hardly any machinery worth its name, and are being run as cottage industries. However, there is no reason why India should not become self-sufficient as far as the production of soap is concerned when she has ample resources of vegetable oils at her disposal.

(5) Manufacture of Paints and Varnishes.

Paints.—Another large outlet for the product of the oil-seed-crushing industry is the manufacture of paints and varnishes. Paints are prepared by mixing finely powdered pigments with the so-called drying vegetable oils, particularly linseed. The mixture is called "stiff paint." Stiff paint is thinned by the further addition of linseed oil together with a proportion of "thinner." When such a paint is applied

*T. W. CHALMERS, *The Production and Treatment of Vegetable Oils*, p. 124.

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to a surface in a thin film the thinner evaporates and the oil is oxidised by air to form a thick film. The film given by linseed oil alone is weak and has poor lasting properties and the function of the pigment is to strengthen and support the oil film and to give it colour and opacity.

Oil Varnishes.—In the case of oil varnishes, the oil film is strengthened and rendered hard and glossy by the incorporation of resins with the oil. Such a varnish is made by heating the resin to fusion and adding the oil also previously heated. As the mixture cools thinners are added in order to obtain the correct consistency.

Spirit Varnishes.—Spirit varnishes are simpler preparations made by dissolving resins in solvents usually in methylated spirit or other denatured spirits.* Thus we find that the raw materials in the manufacture of paints and varnishes are different pigments, drying oils, thinners and resins.

Pigments.—Some pigments like barytes and yellow ochre are natural products, while others like white-lead, zinc white, lithopone, red-lead, Prussian-blue, Brunswick green, Lamp-black are artificially prepared. Almost all the natural products of high quality are found in India, while the artificial materials are partly manufactured and partly imported into India. Lithopone is not made in India so far. Lamp-black is made in India on a small scale.

Drying Oils (Linseed Oil).—Linseed oil is the principal drying oil used in paints and varnishes and, is, perhaps, the best known so far. India is a very large producer of linseed of good quality, and as such, can produce linseed oil for paints and varnishes. The oil to be used in paint is generally boiled i.e. heated to a moderate temperature with a small quantity of "driers," generally lead and manganese compounds. The treatment causes the oil to dry much more rapidly and to give a harder and better film. Boiling of linseed oil is carried on, on a large scale, in the cities of Bombay and Calcutta.

Thinners.—Thinners are volatile oils and evaporate nearly completely from the paint or varnish film. Their function is to make the paint or varnish of a suitable consistency for application. Thinners chiefly used are turpentine and white spirit. Turpentine is produced in India from the Oleo-resin of the "chir" (*pinus longifolia*). White spirit is produced from the oil fields of Burmah, because it is a fraction of petroleum. If carefully made it is a good paint thinner, although from the point of view of the varnish maker, it is inferior to turpentine in its solvent properties.

Resins.—Resins used in the manufacture of varnish are "Copals," or fossil resins. They are not found in India but have to be imported from Africa, New Zealand, and Straits Settlements. Resin and glycerine which also enter in the manufacture of resins are found or made in India. It will thus be seen that India contains

*N. BORDIE, *The Indian Paint and Varnish Industry, being an Article in the Industrial Supplement of "The Capital"*.

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a plentiful supply of most of the materials used in the manufacture of paints, particularly the drying oil—linseed oil—with which we are directly concerned in the writing of this thesis. However, the trade returns show that India imports every year foreign oils in large quantities. This shows that India is not making proper use of her resources, otherwise she should have no difficulty in being self-sufficient in this direction.

History and Position of Paint Industry in India.—"The first paint factory in India was started about thirty-two years ago. To-day there are something like ten paint factories in India. In the early days a very strong prejudice existed against Indian made paints and allied products. It took many years to break this down. Even to this day it still remains to a very large extent as far as such materials as varnishes, enamels and other high class products are concerned. However, this prejudice is quite unreasonable."* Comparative exposure tests carried out have shown that India can produce a wide range of high grade paints which are as good as any of those imported ones from foreign countries. It must be admitted that the industry is still young, virile, and determined to prove that India's needs in the way of paints and allied materials can be satisfactorily met in the country, only if consumers would give a fair trial to the Indian products.

(6) Manufacture of Compound Lubricants.—As India switches off from a purely agricultural country to both agricultural and industrial country, she is sure to require lubricants for oiling her machinery. It has been proved that for lubricating certain kinds of machinery, notably marine engines and high class motor engines, compound lubricants are preferable to lubricants prepared exclusively from either vegetable or mineral oils. Vegetable oils after being air-blown to increase their viscosity and lessen their tendency to gum, are compounded with varying proportions of mineral oils of suitable grade and used for lubricating purposes. As one large American firm utilizes in its compound lubricant manufacturing factory about 4,000 tons of rape-oil every year, the total quantity of oil utilized in Europe and elsewhere must be very large. Again, for high class aeroplane engines, the most popular lubricant at present is a compound consisting chiefly of castor oil. At present India satisfies her requirements in lubricants by importing them, but there is no reason, why she should not be able to manufacture these lubricants to meet her needs. It may be pointed out that India's demand for these lubricants is on the increase. Indian industrialists should be able to rise to the occasion, when a large supply of raw materials is lying at their feet.

(7) Manufacture of Butter and Ghee Substitutes.—On account of the shortage in the supply of animal fat for the manufacture of margarine the attention of the world was turned towards the manufacture of margarine from vegetable oils. Stated briefly, the process of making margarine is similar to that of butter making, the main difference being that in the case of

*R. S. MILLER, *The Paint Industry*, an Article in the Supplement of the *Times of India* published in September, 1933.

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the former, varying mixtures of hard and soft vegetable oils are manipulated to obtain that produce which has the consistency, appearance, and taste of butter. The vegetable oils are either hard oils, such as coconut oil and palm kernel oil, or soft oils such as groundnut,soya bean and cotton seed oils. Moreover, the soft oils can, if necessary, be hardened by a process in which they are caused to combine directly with hydrogen under pressure.

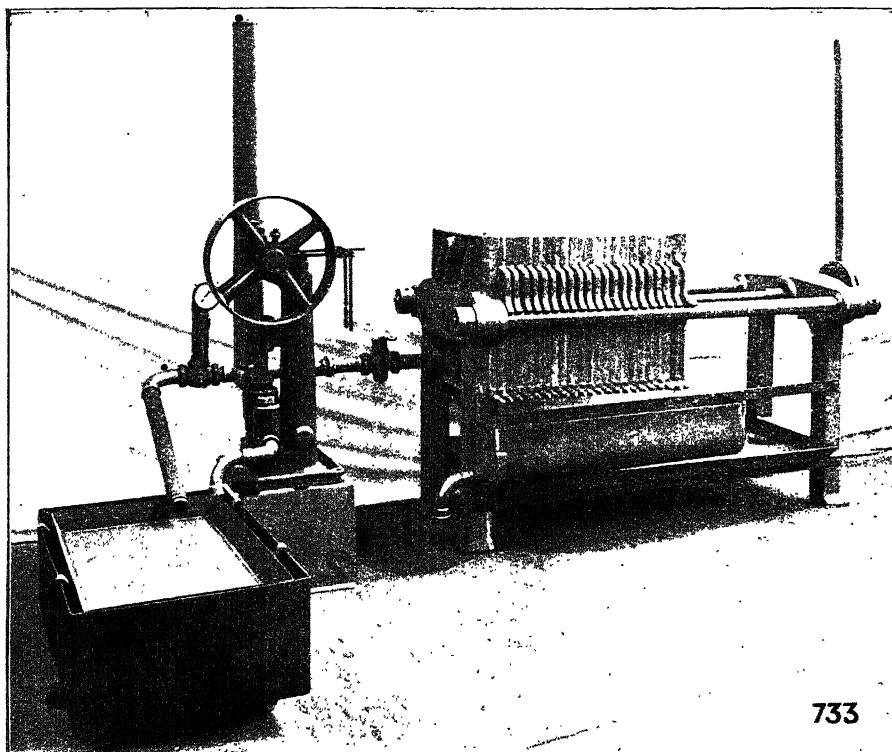
“ The raw materials are carefully refined with a view to the removal of free fatty acids and other impurities. They are also deodorized in order to remove obnoxious flavours; and are then mixed in the proportion necessary to keep a product of the right consistency. The butter flavour is imparted by the addition of milk which has been pasteurised and subsequently inoculated with lactic acid bacterium or other suitable organism. Artificial colouring matter is also added. The mixture is then churned until thoroughly emulsified and is then cooled, kneaded into a homogeneous mass and packed ready for sale. It is in the proper mixing of hard and soft oils in order to produce a compound suitable for table and other purposes that the skill of the manufacturer is shown.”*

There is no factory in India which produces margarine as a substitute for butter and one really wonders whether such a one, if started, would be able to dispose of its wares. As far as the food value of margarine is compared with butter, there is no difference in the fat, protein contents and the calorific equivalents, but they differ very widely in the vitamin value. While butter manufactured from cow's milk is rich in growth-promoting vitamins, margarine, as at present manufactured from vegetable oils, is almost entirely devoid of them.

Of late India has been importing large quantities of a substance which looks exactly like ghee in appearance and flavour, and is known by the name of vegetable ghee or “Vanaspati Ghee.” This substance is generally manufactured on the Continent of Europe from vegetable oils like groundnut oil and coconut-oil and is imported into India by the leading import firms. Its imports during the Post-War years were worth about 42 lakhs of rupees, but they have shown a sharp decline since those years, probably on account of the fact, that it has not found favour with the public. Moreover, some factories manufacturing the same product have been established in India. Although we cannot say whether there will be a large sale of this product in India in future, however, here is another outlet for the use of vegetable oils in India.

(8) Manufacture of Oil-cloth.—Another industry which can be fed by the vegetable oil industry is the manufacture of oil cloth, in the manufacture of which linseed oil is used. India imports every year oil-cloth to the value of about Rs. 7 lakhs. As far as the writer is aware there is no oil-cloth factory in India. Such a factory, if established on proper lines, with an up-to-date equipment, and with proper technical assistance, would

*Report of the Imperial Economic Committee on Marketing and Preparing for Market of Food-stuffs Produced within the Empire, p. 116.



F. Mueller's Filter Press with Pump.
(Sole Importers for India: Volkart Brothers.)

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appear to be yielding satisfactory profits and offer good prospects of further development.

(9) **Manufacture of Candles.**—Candles are manufactured from Stearic acid which is obtained from mineral as well as from vegetable oils, particularly mowra oil. At present India imports candles partly from Burmah and partly from the United Kingdom. Both these candles are prepared from stearic acid obtained from mineral oils. The manufacture of candles in India is not large. Looking to the plentiful supply of stearic acid which can be separated from Mowra oil there appear to be large possibilities for the manufacture of this article in India. Mowra oil yields about 30 to 35 per cent. of stearic acid suitable for candle making and the balance, viz., Oleic acid can be utilised especially for the manufacture of soft soaps. The attention of the industrialists can very well be drawn towards this and the proposal is well worth consideration.

(10) **Manufacture of Tallow Substitutes.**—Tallow is an important solid fat of animal origin. On account of its emollient and binding properties it is used for softening the yarn and to prevent the adhesive and weighing materials in the size from becoming hard. The textile mills in this country have therefore to use animal tallow in large quantities. Almost all the tallow used in the textile mills is imported from Australia and New Zealand and its annual value runs to over twenty-two lakhs of rupees. The religious susceptibilities of the Indian population against the use of animal fat, and the relatively high price of tallow have created a demand for a cheaper substitute of vegetable origin.

The Director of Industries, Bombay, some years ago, at the suggestion of the trade, undertook to find out a suitable vegetable substitute for the animal tallow and referred this question to the Industrial Chemist of the Department. After several years of experimentation the Industrial Chemist has been able to prepare a vegetable tallow substitute for the animal tallow. It is shown that 80 per cent. of groundnut oil, 15 per cent. of coconut oil, and 5 per cent. of castor oil when mixed together, purified by removing the free fatty acids by neutralization and drying the alkali-free-washed-oil under vacuum, and the purified mixture when hydrogenated yields a substance which possesses approximately the same chemical properties and physical constants as tallow and can be safely used in place of animal tallow.* Here we find another outlet for the use of vegetable oils in India, the demand for which is sure to increase in future.

(11) **Manufacture of Glycerine.**—Glycerine is a by-product in the manufacture of soap. It is present in the liquid which is drained off from the soap kettle after the addition of salt which allows the soap to separate at the top. The drained liquid contains caustic soda, salt and glycerine and is called the "Lye." For several years it was regarded as practically useless, it being held that the cost and trouble of recovering glycerine from it were too great to make the undertaking pay. Glycerine in those days

**Tallow Substitutes from Vegetable Oils.* Bulletin No. 3. of the Dept. of Industries, Bombay.

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was in very limited demand, but with the invention of dynamite and nitro-glycerine great attention is now being paid by soap makers to the recovery of this substance. At present on account of the high cost of recovery of glycerine, its recovery is not considered economical in India and she imports glycerine worth 4 lakhs of rupees every year, but as India progresses in her industries here is a storehouse for a large supply of glycerine, in which even an export trade could be developed.

(12) Manufacture of Stearine.—Certain oils, notably cotton seed oil and olive, throw down a deposit of “stearine,” when the temperature falls below a certain point. “Stearine” is a glyceride formed by the union of stearic acid with glycerine.

Taking the particular case of cotton seed oil, it is found that this oil consists primarily of a mixture of palmitine, oleine and linoline. When the temperature falls, the palmitine solidifies out, while the oleine and linoline are still liquid. The “stearine” deposited by cotton-seed oil is, therefore, not “stearine” but “palmitine.” The extraction of “stearine” is an important operation, particularly in the case of cotton-seed oil. This oil, after being “demargarinated,” is known as “Winter Oil,” because it will not throw down a deposit or become cloudy at temperatures normally occurring in winter.

Process of Removal.—The usual method of demargarination is to cool the oil artificially until the “stearine” solidifies, and then to pass the oil through the filter press. A slightly different method consists in completing the freezing of the whole oil in flat pans, wrapping the frozen cakes in bagging and pressing them in a hydraulic press. Under pressure the portions of the oil having the lowest freezing point liquify, and are forced out and drained away. Coconut-oil, when similarly treated, yields a harder and whiter “stearine” in a larger proportion and at a cheaper rate. As very low temperature is not required to be employed, working expenses are much lower. Moreover, coconut “stearine” can be prepared either in large quantities or in small quantities and the plant required is simple and not very expensive. In this it differs greatly from the hydrogenation process which can only be worked on a large scale. There is certainly scope for the manufacture of this product in India, particularly when we see that India every year imports “stearine” and tallow worth about 30 lakhs of rupees.

Oilcakes and Their Uses

In the foregoing pages of this chapter, we have outlined the various industrial uses to which vegetable oils can be put. Oil is not the only product of oil-seeds; it is one and the chief, the other being the residue, called the oilcake, left over after the extraction of oil. With an increase in the oil supply there is sure to be an increase in the oilcake supply of India.

The only use to which oilcakes have been put, so far, in India is the feeding of the cattle, which consumes only a fraction of the total oilcakes produced. The major part is exported to foreign countries, where it is put to a variety of uses.

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The following table gives the annual exports of oilcakes from India:—

Table showing the annual exports of oilcakes from India.

Year.	Value (in thousands of rupees).			
1927-28	3,14,19
1928-29	3,84,18
1929-30	3,11,92
1930-31	2,80,05
1931-32	2,00,68
1932-33	1,96,51
1933-34	1,64,72
1934-35	1,96,99
1935-36	1,81,70
1936-37	2,26,93

This huge export of oilcakes from India is considered a great loss to the country, as we had occasion to remark in the beginning of this chapter. So another problem before India is the retention of oilcakes in the country. This can only happen if they are begun to be put to more uses than at present. It has been found that certain oilcakes are not only good feeding materials for the cattle, but also contain elements which go to make them good fertilizers. There are still other oilcakes, which are neither useful for feeding purposes nor for manurial purposes, but are good vermicides and, therefore, can be used to kill insects which are created in gardens by the use of certain type of manures. Thus, we see that oilcakes like oils have a variety of uses. The first and the most primary use is the feeding of the cattle. Cakes like sesame seed cake, rapeseed cake, and coconut cake are good feeding materials for the cattle. Sesame seed cake is specially good for the dairy cattle and is popularly believed to have a cooling effect on the animals to which it is given. Its availability in large quantities can lead to the establishment of a good dairy industry in India. Other oilcakes like linseed cake, groundnut cake, rapeseed and coconut oil cakes in addition to being good feeding materials, are good manures. Castor seed-cake is not good for feeding purposes, as it contains an element harmful to the cattle, but it is a very good manure for tea and sugar-cane plantations and, as such, can be utilized for the purpose. Mowra seed cake, unlike other oilcakes, is a good vermicide, and, as such, can be mixed in small quantities with other cakes used as manures to prevent the growth of worms or insects. Thus we see that oilcakes have a large field of usefulness in India, and there is no justification for exporting them. It may be pointed out that the Indian agriculturist being illiterate is not aware of the uses to which oilcakes can be put. So, before oilcakes can be used for all these purposes the problem is to educate the agriculturists and bring home to them the advantages of feeding oilcakes to their cattle and also adding them to their lands.

Cotton Seed Cake.—Cotton seed and cotton seed cake present a problem in themselves. At present the Indian farmer being ignorant of the contents of cotton seed, feeds his cattle with the

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seed, rather than with the cake. It is a great economic loss to him, and to the country. The cotton seed contains many indigestible elements which pass through the excreta of the animals undigested. The excreta is burnt, thus those elements are lost for ever. Experiments carried out have shown that cattle can be very well fed on cotton seed cake, which is a much cheaper material and which possesses all the elements required for the growth of animals. Thus the farmers have to be educated in the use of cotton seed oilcake by demonstration, so that they may know that it is in their interests to feed their cattle with the cotton seed cake rather than the whole cotton seed. Thus the problem of greater utilization of oilcakes in India is a problem of educating the Indian farmer as to the advisability of using oilcakes as feeding material and as manures. Unless that is done the oilcakes will continue to be exported to the great loss of the country.

Cotton Seed Flour.—Cotton seed cake has been put to another very interesting use, that is a kind of flour has been prepared from cotton seed cake. This cotton seed flour contains a high percentage of protein and fat, and is said to possess a high nutritive value: nearly two and a half times that of fried meat and from three to thirty times that of many of the best known and most frequently used articles of food. Cotton seed flour is being manufactured in India by the Indian Cotton Oil Co., Ltd., Navasari, in the Bombay Presidency. This cotton seed flour can be taken alone or mixed with wheat flour. Thus, here is another outlet for a product of the oil-crushing industry, which provides a highly nutritive substance useful as a food not only for animals but also for human beings.*

4. Development of an Export Trade in Oils

Another problem of the expanded Vegetable Oil Industry is the development of an export trade in oils. The following table gives the exports of vegetable (non-essential) oils for the last several years:—

		Quantity (000) gallons.	Value (000) rupees
1924-25	..	1,332	37,61
1925-26	..	1,623	44,53
1926-27	..	1,307	31,25
1927-28	..	1,193	29,37
1928-29	..	1,586	37,45
1929-30	..	1,348	31,80
1930-31	..	1,139	24,49
1931-32	..	1,900	30,43
1932-33	..	2,444	38,27
1933-34	..	2,921	37,85
1934-35	..	2,173	29,93
1935-36	..	2,370	35,90
1936-37	..	2,910	44,56

In 1932, the Ottawa Trade Agreement was signed between the Indian and the British Delegates and was ratified by the

* *Cotton Seed Products in India*, issued by the Indian Cotton Oil Co., Ltd., Navsari, Bombay Presidency.

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British Parliament and the Indian Legislature. According to this Agreement the United Kingdom agreed to give a preference of 15 per cent. on principal Indian vegetable oils. By the same Agreement Indian groundnut oil and sesame oil received a preference of 10 per cent. in British Malaya. The working of this Agreement has shown that the exports of oils from India, particularly to the United Kingdom, have considerably increased. However, there is every hope to believe, that if the present handicaps from which the Indian oil trade suffers were removed, exports of oils to the United Kingdom as well as to other European countries would considerably increase.

The two chief handicaps are:—

1. Absence of standardization. —
2. Want of suitable containers for oils.

Standardization of Oils.—At present there exists no arrangement for the standardization of oils, with the result that the importers hesitate to import vegetable oils from India. It is, therefore, necessary that a careful analysis and classification of all oils intended for export should be made; and as analysis and classification done by private experts is likely to be less reliable, it is suggested that Government, in the interest of the Vegetable Oil Industry, should establish test houses, through the warehouses of which all oils meant for export should be required to be passed before obtaining the Government Grade marks. Oils might be graded as "First Grade" or "Second Grade" according to the percentage of acidity and seals marked "First Grade" or "Second Grade" might be attached to all packages the contents of which were found to be in accordance with the specified requirements of either of these grades. The export of oils bearing Government Grade mark, except from Government warehouses, should be prohibited, but no restrictions need be placed on the export of ungraded oils. If the particulars of the system of grades adopted were widely published in England and elsewhere, it is suggested that European countries would find to their advantage to arrange for the supplies of such oils, instead of purchasing ungraded oils of uncertain quality. Bombay and Karachi firms would also be safeguarded against possible claims for variations in quality, and would be willing to buy and sell graded oils on reasonable terms. For instance, if they had an inquiry for 100 tons Bombay No. 2 linseed oil, they would contract with a bazaar or mofussil merchant to deliver that quality to the Government Test House. Should the oil pass the necessary test, the merchant would receive payment, if not, he would be forced to take back the oil. The officials in-charge of such warehouses would be kept up-to-the-mark by the fear of different results being obtained on the receipt of oils in Europe, while their interests would be watched by the representatives of Indian Trade Commissioners at the principal ports. A charge for inspection sufficient to defray at least a portion of the necessary expense should be imposed and made payable in cash at the time of fixing the grade seals.

Containers.—This is the most important problem on the successful solution of which the success of an export trade in

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oils will ultimately depend. It is partly on account of the high cost and comparative unreliability of available oil containers that the exports of oil-seeds have hitherto flourished and those of the oils failed. At present oil is exported in wooden barrels which is not a very satisfactory package. This is due to the fact, that in dry weather the natural moisture of the wood is evaporated, and as its place is not quickly filled by the oil, and greater expansion and contraction take place in tropical zone than in the temperate zone. It is possible that leakage from such causes might not be sufficient to warrant higher expenditure on other forms of containers, but for a long time to come full cargoes of oil will not be offered, and consequently fear of damage to other goods placed in the same holds, will lead to the rejection of oil shipments which show even a slight tendency to leak. It is necessary, therefore, to look round for some form of package which will meet the requirements of carriers and reduce the possibility of loss through leakage. Neither the kerosene oil-tins nor the large steel barrels are suitable forms of containers. For the present the only suitable container available in almost unlimited quantities is the small 4 or 5 gallon double turned over oil drum made from 24 to 22 gauge galvanized iron sheets which can be manufactured locally and does not require any heavy or elaborate machinery. If arrangements could be made for their disposal at a reasonable price in Europe they should prove only very slightly more expensive than wooden barrels and the leakage difficulty would be largely overcome.

In conjunction with the proposed scheme for testing and grading oils, it is suggested that an attempt should be made to standardize containers so that the advantages of grading seals will not be neutralized by the damage caused to other goods by leaky oil containers. No consignments, the containers of which are unsuitable for ocean transport, should be accepted for test by the Government Test Warehouses, as proposed in the foregoing pages of this chapter.*

Future of the Vegetable Oil Industry in India.—A study of the foregoing pages of this chapter has shown that oils can be put to a variety of uses, industrial as well as others, provided the industry were properly organised. In an agricultural country like India with a population of 350 millions, all of whom are potential consumers of oils, buyers of oilcake, and possible users of soaps, paints, varnishes, etc., who consume large quantities of oil for illuminating purposes, and where there is ample evidence of industrial awakening in the country, great development of motor transport and aviation, the oil industry has really a very bright future before it.

*A. F. YUILL, *Vegetable Oil Industry in the Bombay Presidency*, p. 82.

CHAPTER X

PRINCIPAL NEEDS OF THE OILSEED TRADE

Summary.—The study of the thesis so far has shown us that oil-seeds are one of the oldest products of the earth as they could be traced even to the days of the Bible. However, they assumed an international importance in the end of the 17th century when the attention of the Continental countries was directed towards the cultivation and crushing of oil-seeds because of the scarcity of the olive. Holland was the chief country where these seeds were crushed, and it is reported that there were in that country as many as 50 windmills crushing seeds only. Recent developments in the industrial world have greatly stimulated the demand for oil-seeds. In the course of half a century the cultivation of plants yielding oil-seeds for commerce has made considerable progress. The production has gone up by leaps and bounds and still it appears that supplies of oil-seeds, especially in certain groups, are not keeping pace with the growing demand for the products manufactured from them. The oilseed crop of the world, excluding olive, can be roughly put at over 32 million tons.

India is not only one of the largest oilseed-producing countries of the world, but is, perhaps, the only country which produces, in commercial quantities, greater varieties of oil-seeds than any other country of the world. With the exception of palm-kernel and soya bean, she makes an important contribution to all the principal oil-seeds, which form the basis of the world's oilseed-crushing industry. Her production of the oilseed crop which comprises linseed, groundnut, cotton seed, sesame seed, castor seed, rapeseed and mustard, copra, poppy seed, mowra seed, niger seed, kardi seed, etc., can be put at about eight million tons, and the area under the crop is over 22 million acres.

Crops, when harvested in different parts of the country, are partly kept for local consumption, and the surplus is taken by the cultivator to the nearest market town for sale. These market towns are called Primary Markets. There is quite a large number of such markets in the country. The organisation of primary markets is, in essentials, very simple though it varies from market to market.

A large part of the oil-seeds dealt with on the primary markets finds its way to the port towns or the Terminal Markets. The chief means of transport employed is the railway. Water transport does not play an important part, except in certain parts of the Bengal Presidency. The chief terminal markets for oil-seeds are, Karachi, Bombay, Cochin, Madras, Calcutta, and Rangoon. Of these terminal markets Bombay's position is the most important as it is through this port that a large part of the oil-seeds finds its way out.

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A part of the oil-seeds received in Bombay is taken up by the oil mills in the city, and the indigenous *ghanis* and the remaining is exported. The chief exporters are the non-Indian export houses. Indian export houses also have a share, but it is very small. Chief customers of Indian oil-seeds are the U.K., Holland, France, Germany, Italy, Belgium, the U.S.A., etc.

India, although a large exporter of oil-seeds, is also a large importer of oilseed-products for which she is required to pay many times the price of oil-seeds which have entered into their manufacture. This is considered to be a great drain on the resources of the country. It is this feeling of great loss to the country that has, on every occasion, prompted people to suggest restriction on the exports of oil-seeds by imposing an export duty, but such a step cannot be said to be in the ultimate good of the country. The remedy lies in the greater industrial utilization of the oilseed-products in the country.

The oilseed trade of India, as at present organised, has several needs, which must be met so that the course of trade may run smooth and to the benefit of the country.

I. Research in Oil-seeds

The first and foremost need of the oil-seed trade is the organisation of a comprehensive research in all oil-seeds so that India may have a plentiful supply of the best commercial varieties. India grows a large variety of oil-seeds: larger than any other country of the world. But it is to be noted that some of the varieties of oil-seeds have begun to deteriorate. Of late the European importers of groundnut have been complaining of the poor quality of the Indian groundnut, which contains large percentage of free fatty acids. This may be due to the fact that in the past little or no systematic and elaborate research has been done on seeds, with the results that some of the varieties have attracted diseases and deteriorated in quality. The Imperial Institute of Agricultural Research at Pusa, now at Delhi, has been carrying on research in agricultural commodities including some oil-seeds, but this cannot be said to be quite adequate looking to the important part which oil-seeds play in the agricultural economy of India. It is, therefore, one of the greatest needs of the vegetable oil industry that greater research should be carried on in oil-seeds. Such a research is not only in the interests of the Indian oil-crushing industry but also of the agriculturist, in particular. It may be pointed out that the present time is the most opportune for the framing of a complete and thorough programme of research in oil-seeds and oilseed products, since the Ottawa Trade Agreement, by giving tariff preferences in the United Kingdom on Indian vegetable oils and on certain oil-seeds, has opened up fresh opportunities of development. As a result of the Ottawa Trade Agreement all Indian oil-seeds, all Indian vegetable oils, and all Indian oilcakes are admitted into the United Kingdom free of duty with the exception of cotton seed, rapeseed and soya beans which already are admitted free of duty from whatever source received. Foreign oil-seeds are liable to a duty of 10 per cent.

By the same Agreement the duty on foreign coconut oil, castor oil, groundnut oil, linseed oil, sesame oil, and rapeseed

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oil is fixed at 15 per cent., so that India has a preference of 15 per cent. on these oils and 10 per cent. on all other non-Empire vegetable oils, since they are dutiable under the Import Duties Act. There is also a preference of 10 per cent. on oilcake coming from India.

We note with satisfaction that sometime ago the Imperial Council of Agricultural Research appointed a Committee, known as the Indian Oil-Crushing Industry Committee, to investigate into the present condition of the Indian oil-crushing industry and to recommend means for its improvement. We understand that at the few meetings that this Committee has so far held, the Committee, among many other problems connected with the industry, has been considering the question of framing a detailed programme of research in all commercial varieties of oil-seeds. We hope that any complete scheme for research that might be proposed by this Committee would be taken up by the Imperial Council of Agricultural Research.

The present need of the Industry is not only to carry on research in the varieties of oil-seeds grown at present in India on a fairly large scale, but also to make experiments in the introduction of other useful oil-seeds, which India so far has not tried earnestly to grow. In this connection we particularly refer to the soya bean which is a very valuable economic crop and which we feel can be made to grow on the Indian soil. Experiments of a preliminary nature have been carried on at Baroda and Indore, and it is found that the crop can be grown on the Indian soil. It is desirable that the various agricultural departments should try to grow this valuable crop on their experimental farms and, if successful, should encourage its cultivation in the provinces.

II. Suitable Marketing Machinery

The second need of the oilseed trade is to devise a suitable machinery which would help the producer in marketing his crops in a way which would fetch him the just price. It may be repeated, that although the agriculturist is a producer of money crops of such a great value he is economically dependent and has to borrow money from the village money-lender at a very exorbitant rate of interest and with peculiar stipulations to meet his current obligations. At the top of this, he is illiterate and ignorant of the money value of his crop, and having no holding power is in a hurry to sell, and as such, often does not get the best price for his goods. On account of his illiteracy and ignorance he is often duped while selling his produce. The Royal Commission on Agriculture in India which recently investigated the matter said in their report: "From all provinces we received complaints of the disabilities under which the cultivator labours in selling his produce in the markets as at present organised. It was stated that scales, weights, and measures were manipulated against him, a practice which is often rendered easier by the absence of standardized weights and measures and of any system of regular inspection. Deductions which fall entirely upon him, but against which he has no effective means of protest, are made in most markets for religious and charitable purposes and for other objects. Large 'samples' of his produce

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are taken for which he is not paid even when no sales are effected. Bargains between the agent who acts for him and the one who negotiates for the purchaser are made secretly under a cloth, and he remains in ignorance of what is happening. The broker, whom he is compelled to employ in large markets, is more inclined to favour the purchaser with whom he is brought into daily contact than the seller whom he sees very occasionally.”* It is most imperative that he should have at his disposal an organisation which should not only help him in disposing of his wares at the most reasonable price but also enable him to hold his goods for sometime. “The agricultural departments in India have done much to improve the quality of, and to increase the quantity of cultivators’ out-turn, but it cannot be said that they have been able to give them substantial help in securing the best possible financial out-turn. The Co-operative departments, again, have been too much occupied with their primary function of organising credit to be able to devote much attention to these problems, nor have they been sufficiently well-equipped with the special knowledge required for dealing with them. It is only in a few instances that they have been able to give the cultivator material help in disposing of his produce. His interests have, therefore, in the main, been left to the free play of the economic forces and he has suffered in the process. For, he is an infinitely small unit as compared with the distributors and consumers of his produce, who, in their respective fields, become every year more highly organised and more strongly consolidated. It is in their interest to secure or acquire from the producer the raw material they handle at the lowest possible price. Marketing is the sole business of the distributor, whereas, from the point of view of the farmer, it is apt to be regarded as subsidiary to production.”† As such, it is quite essential that the Government should provide for the producer suitable machinery which would render him all relevant assistance in the disposal of his produce and also provide him with marketing credit. As a matter of fact the formation of such organisations was contemplated by the framers of the Co-operative Credit Societies Act of 1912, but the formation of such organisations has not been pushed with any amount of vigour by the Co-operative Departments.

Co-operative Sale Society.—Such an organisation is the Co-operative Sale Society. It is a co-operative organisation formed with the following objects in view:—

- (i) To encourage self-help, thrift and co-operation among members.
- (ii) To advance loans to members on the security of their produce.
- (iii) To arrange for the sale of produce of members to the best advantages.
- (iv) To rent or own godowns, to facilitate the grant of loans to members and sale of their produce.

**Report of the Royal Commission on Agriculture in India*, pp. 388-9.

†*Ibid*, pp. 389-90.

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- (v) To act as the agent of those members which are affiliated societies in the matter of disbursing and recovering loans sanctioned to individual members of such societies, and
- (vi) to act as agent of those members which are affiliated societies in the matter of receiving for safe custody in its godowns or elsewhere the produce pledged to such societies by their members.

A co-operative sale society obtains funds from the central co-operative bank and advances those funds to the farmers against the security of their produce and thus provides them with marketing credit. The Society warehouses the produce entrusted to it and arranges to sell it at the best price obtainable and reimburses itself from the sale proceeds of the produce. The starting of such sale societies to supply marketing finance to the agriculturists has been very strongly advocated by the Banking Inquiry Committee which wrote: "The organisation of co-operative sale societies which can advance money to the cultivators and enable them to avoid being forced to sell their produce at unfavourable rates will go a great way to help the cultivators in the case of crops intended for internal consumption. We, therefore, recommend that co-operative sale societies should be established wherever there are reasonable chances of their successful working."* We fully concur with the view of the Banking Inquiry Committee and suggest the starting of co-operative sale societies on the above lines. But we cannot help sounding a note of advice. "Success of such co-operative sale societies depends, firstly, on there being a margin between the lowest and the highest price during the period the product can be stored, sufficient to cover warehousing, interest and management charges, and still leave an attractive profit. Secondly, it depends on securing managers, who have the ability to judge accurately the course of prices and the character to resist and prevent speculation. Thirdly, the producers themselves must have a sense of loyalty to their sale society strong enough to keep them from snatching chance opportunities of larger profits by selling elsewhere or from deserting the society on the first appearance of loss. If these three conditions were fulfilled, co-operative sale societies might succeed in intercepting some of the profits of marketing which now go to the middlemen."†

Marketing Scheme of the Government of India.—Since the publication of the reports of the Royal Commission on Agriculture in India and the Indian Central Banking Inquiry Committee, the Government of India have been thinking of helping the agriculturists by devising some suitable machinery for the marketing of agricultural produce, but agriculture being a Provincial subject, they could not take any bold step in that direction. However, in view of the importance of improved agricultural marketing as an aid to the general economic recovery of the country, the Government of India came to the conclusion, that a stage had been reached where action might usefully be taken

*Report of the Indian Central Banking Inquiry Committee, Vol. I, p. 217.

†Report of the Bihar and Orissa Provincial Banking Inquiry Committee, Vol. I, p. 69.

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to study in detail the all-India aspect of the problem and that substantial expenditure would be justifiable even at a time of financial stringency if the position of Indian agricultural produce in the world markets could be strengthened, and greater advantage taken of the huge internal market for such produce. Accordingly, Provincial Governments were consulted in July 1933 and on receipt of their replies, the Government of India placed the matter before the Advisory Board of the Imperial Council of Agricultural Research for the expression of their opinion. In the light of the replies received from Local Governments, the Board unanimously recommended action on the following lines:—

(a) The first step should be the appointment, for a limited period, of a highly qualified and experienced Marketing Expert with particular knowledge of agricultural marketing in other countries of the Empire. This officer and the necessary assistants should be on the staff of the Imperial Council of Agricultural Research and should undertake the investigation of marketing problems and formulating schemes for the improvement thereof, make recommendations as regards grades of various commodities and advise Local Governments and Provincial Departments of Agriculture, generally, in regard to agricultural marketing.

(b) Attention should be concentrated, in the first instance, on the principal commodities, and

(c) Local Governments should be invited to collaborate with the Marketing Expert by appointing Marketing Officers.

The question of agricultural marketing was also discussed at the Provincial Economic Conference held at Simla in April 1934. There was a general agreement at the Conference that, of all the practical measures for improving the economic conditions of the agriculturists, an intensive programme to develop marketing facilities for the agricultural products (both crop and live stock products) offered the best immediate prospect of substantial results. The conference was of opinion that action to be taken to deal with the main marketing problems should include,

- (1) propaganda and the supply of information in external markets regarding Indian produce,
- (2) the grading,
- (3) storing and bulking of main staple products,
- (4) special market organisation for perishable commodities,
- (5) information to India's producers of consumers' requirements both in India and abroad,
- (6) planning of production on the basis of quality and demand,
- (7) the establishment and development of regulated markets, and
- (8) the undertaking of market surveys for the purpose of developing a common plan throughout India and the establishment of properly organised 'futures markets,' commodity exchanges, and warehouses.

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As stated in paragraph 9 of their Resolution No. F.-16 (1) F. 34, dated 5th May 1934, the Government of India decided to proceed on the lines recommended at the Conference which included the following initial steps:—

- (1) The appointment of a Central Marketing Officer and staff by the Government of India,
 - (2) The appointment of Provincial Marketing Officers,
 - (3) The inauguration of marketing surveys,
 - (4) The appointment of special committees for the staple crops,
 - (5) work on grade standards.
- These steps broadly follow the recommendations of the Royal Commission on Agriculture which were endorsed in general by the Central Banking Inquiry Committee; and steps will be taken to give effect to them.

The question of establishing additional crop committees is still under the consideration of the Government. In the meantime it has been decided, however, that other recommendations should be given effect to immediately in accordance with the scheme of work prepared by the Marketing Adviser on the staff of the Imperial Council of Agricultural Research. This work which will be undertaken by a central staff in conjunction with Provincial Marketing staff falls into three main divisions, *viz.*,

- (1) Investigation Work.
- (2) Development Work.
- (3) Work on grade standards.

The work to be done under these various headings may be summarised as follows:—

(1) **Investigation Work.**—This will include a series of marketing surveys with immediate reference to the more important commodities such as wheat, barley, rice, oil-seeds, tobacco, fibres and fruit. Certain general questions are also included within the surveys, *viz.*, Regulated Markets, marketing organisation, the problems of transportation, storage and preservation of commodities dealt with, and standardization of containers.

The marketing surveys, when completed, will set out in detail the present system of marketing of the commodities concerned not only in each of the provinces separately but in respect of inter-provincial, inter-state and foreign trade so as to provide an all-India picture of the existing conditions and a common basis for future progress. The report of each survey will set out, in precise technical detail, definite suggestions for standard grades, containers, handling, methods of packing, contract conditions, etc. Without committing either the Central Government or Provincial Governments, these reports will also formulate proposals regarding any improvements in marketing organisation in the various areas which may appear to be necessary and practicable.

(2) **Development Work.**—The development work will follow the Investigation work. More generally, development work will aim at securing the extensive use of the agreed commodity standards, the elimination of, and better organisation of the producers for marketing purposes. This work will be done

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in Provinces and will probably fall upon the Provincial Marketing staff.

(3) **Grade Standards.**—This will be a work of technical nature relating to the chemical and physical properties of such products as oil-seeds, grains, fruit, etc., and the testing of grade technique and equipment under practical conditions.

The Central Marketing Staff will consist of the Agricultural Marketing Adviser, six Senior Marketing Officers, and Marketing Officers and twelve Assistant Marketing Officers, and these officers will be allotted to the commodities and the groups of commodities in the manner indicated above. The planning, direction and interpretation of the marketing surveys will be the responsibility of the Central Marketing Staff; and work will be carried out in close co-operation with the Provincial Officers. Several Provincial Governments have promised the Imperial Council of Agricultural Research that they will appoint their own Senior Marketing Officers who will be in charge of the marketing staff working in the Provinces and co-operate in the work with the Central Marketing Staff or make other suitable arrangements for the purpose.

The Central Marketing Staff will be constituted as an attached office of the Imperial Council of Agricultural Research with the Marketing Adviser as the Head of the attached office.

As regards the finance, the Government of India have agreed, subject to funds being voted by the Legislative Assembly, to meet for a period of five years the expenditure on the Central Staff as well as of certain staff in the provinces.

This is in short the scheme which the Government of India have inaugurated in collaboration with the Provincial Agricultural Departments. Central as well as Provincial marketing staff has been appointed and the first as well as the third division of the work, *viz.*, investigation and work on grade standards has been started. It is earnestly hoped, that the preliminary work will be followed by a scientific and systematic programme of marketing agricultural produce in India.

III. Good Roads and Means of Communication

The third need of the oilseed trade is the laying of good roads, particularly those connecting the producing areas with the primary markets. Roads have been called the "arteries of commerce," as it is through them that commerce flows. The prosperity of the agriculturist and the success of any policy of general agricultural improvement depend to a very large degree on the facilities which the agricultural community has at its disposal for marketing to the best advantage such of its produce as is surplus to its own requirements. Transportation is an integral part of marketing, and modern commercial development tends everywhere to enhance the value and importance of good communication. The building of railways in India has made commercially possible the movement of produce from areas of surplus production to other parts of the sub-continent, while railways together with steamships, have linked the cultivators of India with markets throughout the world. Local distribution of commodities has been

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facilitated by the construction of a road system of which the more important roads are, for the most part, metalled and bridged. But other roads and lanes in India are usually in a bad condition and good markets are of little help to the cultivator unless he can transport his produce to them cheaply and promptly. The handicap imposed on the cultivator in selling his produce by the lack of a passable route between his holding and local market town may bar to him the markets of Europe or America.

Social, Economic and Political Effect of Good Roads.—The importance of roads in the marketing of agricultural products and thereby helping the agriculturist socially, economically and politically cannot be minimized. This aspect of roads has also been stressed upon by the Royal Commission on Agriculture in India. In paragraph 298 of their report the Commission says: "Good communications in combination with efficient marketing arrangements enable produce to be moved cheaply and quickly to places where demand for it is active, and secure the equalisation of prices for particular classes of produce throughout the country, and both these factors react favourably on the price which the average cultivator receives. They frequently open out to him alternative markets, and the element of competition between the market and the market that follows usually operates greatly to the advantage of the producer. Defective communications between the points of production and the local market hinder the movement of goods and make primary marketing costly, the additional charge ordinarily falling upon the shoulders of the cultivator. In extreme cases difficulty of communication may leave the cultivator entirely at the mercy of the local dealer who has at his command enough pack animals or bullock carts to undertake the transport of produce to the nearest market."

"Efficient communications exercise an immediate effect on the factor of time, which is an essential element in the price factor. Good communications in any area will often bring new crops within the range of profitable cultivation. In fact it has been the improvement in communications since the middle of the 19th century, that more than any other factor has brought about change from subsistence farming to the growing of money crops, such as cotton, jute, groundnuts and tobacco. Bad communications by imposing a constant strain on the health and stamina of the draught animals, seriously reduce their efficiency for the all important work of cultivation. Finally, bad communications not only hamper the agriculturist in the marketing of his produce, but also raise the price of his own purchases from elsewhere. In short, the true income of the cultivator is largely dependent on the efficiency of communications."*

"The social and political effect of good communications, especially on the rural population is not less important than the economic. It is unnecessary to elaborate this aspect of road development. It is common place, that social and political progress is advanced by intercourse and retarded by isolation. The far-reaching potentialities of motor transport are beginning to be realised. Instead of counting by miles, we begin to count

*Report of the Royal Commission on Agriculture in India, para. 298.

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distance by time. It is difficult to foresee and difficult to exaggerate the effect on the life of the nation of this annihilation of distance and the consequent awakening of the rural population."

"Our conclusion is that the development of the road system of India is desirable, because it will make for the economic, social and political advancement of the rural population, on which the future of the nation so much depends."*

IV. Regulated Markets

The fourth need of the oilseed trade of India is the institution of properly regulated markets. It may be pointed out that markets in India are numerous. In Bihar and Orissa alone, for instance, there are no less than 432 principal markets and 2,464 minor markets.† In all provinces markets vary in character and importance. On one end of the scale are the elaborate modern *mandis* of the Punjab canal colonies which consist of shops built round three or four sides of a rectangle, a wide brick pavement provided for unloading, examining, cleaning, weighing and bagging the grain. In front of the pavement there is a wide metalled road surrounding an open space for parking the carts. The market is near the railway goods platform, as far as possible, and sometimes a railway siding runs into it. Adjacent to the grain market are cotton ginneries, a market of imported timber, iron and steel, and a bazaar the shops in which supply everything that the cultivator requires and which is not available in his own village. At the other end of the scale are the small village markets, most of which we have studied in Chapter III of our work, which are little better than open spaces with accommodation of a very temporary character.

The organisation of different markets varies very widely. "In Bihar and Orissa all markets are privately owned and rents and tolls are levied by the landlords. In most other provinces there are both public and private markets, the former being directly under the control of a district board or municipality and the latter being licensed by the local authority concerned."‡ In the hinterland of Bombay that we have studied they are both public and private. It is only in Berar and Hyderabad (Dn.) that markets are regulated by special legislation. An Act for the regulation of markets in the Bombay presidency has recently been passed, but it relates to cotton markets and not to oilseed markets, in the study of which we are interested. It may be pointed out that, "although the law under which the Berar Markets have been constituted is known as the Cotton and Grain Markets Law, the Act, in actual practice, is used almost exclusively for cotton."§ Thus it may be said, without any fear of contradiction, that as far as oilseed trade is concerned, there exist no regulated markets as such in India.

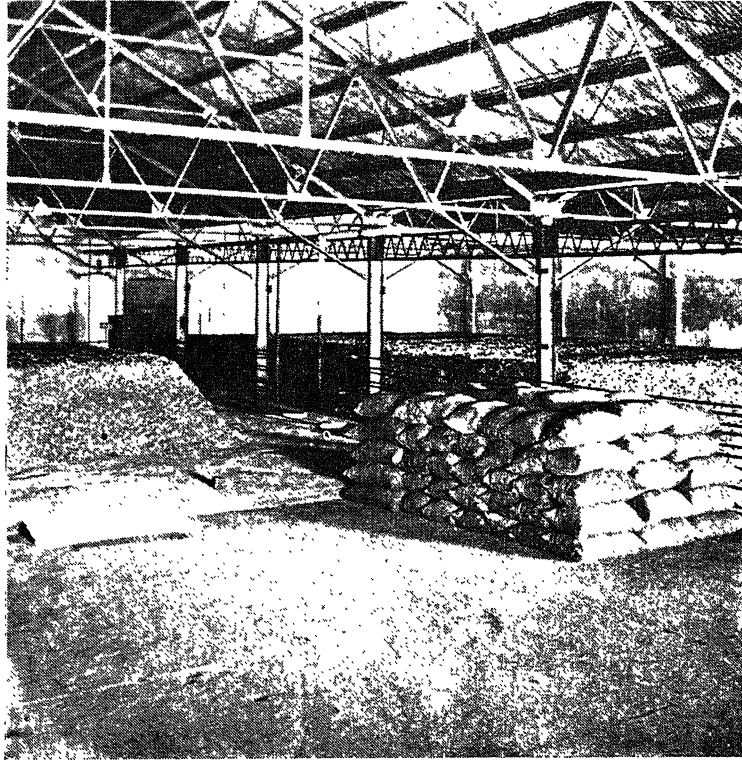
Importance of Properly Organized Markets.—The importance of properly organized markets to the producers can hardly be minimized. It is a place where the cultivator is in a position to

*Indian Road Development Committee Report, (1927-28.)

†Report of the Royal Commission on Agriculture in India, p. 334.

‡Ibid, p. 334.

§Ibid, p. 339.



Seeds Godown
(The Tata Oil Mills Co., Ltd., Tatapuram.)

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dispose of his produce and obtain a much better price for it, even when the cost of transportation is taken into consideration, than when he disposes of it in his own village. It not only enables him to fetch a better price for his produce but also inspires him with confidence that he is getting the just price for his goods. Organized markets are a sure remedy to release the producer from the dependence upon the village money-lender by allowing him to exercise more of freedom in the sale of his goods.

“Interesting light is thrown upon this subject as the result of inquiries made in 1923 by the Punjab Communications Board, which elicited that in some districts of the province, of which Karnal is one, the bulk of the crop was sold to the village trader. In the adjacent district of Rohtak, where communications are better than they are in Karnal and the co-operative movement has made great progress, the proportion fell to one half. In the prosperous Lyallpur district with its excellent communications and numerous *mandis* (markets) whole of the surplus produce was disposed of in the market centres.”*

Under the circumstances it is quite imperative, both in the interest of trade and the producer, that regulated markets for oil-seeds and grain be established in all parts of India.

Markets under Provincial Legislation and Control.—Question may be asked whether the markets should be established under *ad hoc* legislation or under by-laws framed under the Municipalities Act, or the District Board of the Province concerned. A study of the working of the markets established under the Municipalities Act and the District Boards Act shows, that markets established under these provisions are not so efficiently regulated as those in Berar which are instituted under provincial legislation. “If the management of regulated markets is left to Municipal Councils or District Boards on which vested interests are often strongly represented, and on which pressure can be brought to bear in several ways, it is very doubtful if the interests of all parties directly concerned, more especially those of the growers, will be adequately safeguarded. There is a danger that the markets will be regarded merely as a source of revenue to the Municipality or the District Board concerned and the objects with which they have been established will be largely frustrated. We are, therefore, of opinion that regulated markets should only be established under provincial legislation.”†

We herewith take the opportunity of annexing a copy of the Hyderabad Agricultural Markets Act and the rules framed thereunder in the Appendix. A copy of the rules framed under the Berar Cotton and Grain Markets Law, 1897, is also annexed.

V. Standardization of Weights and Measures

The fifth need of the oilseed trade is the standardization of weights and measures. A study of Chapter III of this volume has shown us clearly that one thing in which the markets in the Seed Areas in the hinterland of Bombay differ from one another is the system of weights and measures. In Seed Area No. 1 the standard weight is a maund of 40 lbs., in the second a *mani* of

*Report of the Royal Commission on Agriculture in India, p. 388.

†*Ibid.*

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12 railway maunds of 40 seers each, in the third, a *khandy* of 784 lbs., and, in the fourth, there is the *paili* and maund and so on. Thus, there is a great diversity in weights and measures in the hinterland of Bombay. This diversity not only exists in the hinterland of Bombay, but in almost all parts of India. In fact in certain parts weights differ from district to district and even in different towns of the same district. "This great diversity tends to create an element of uncertainty in trade and renders fraud on the part of retailers as easy as it is profitable, and it exposes the poorer and silent classes to the constant liability of being cheated."*

It is a well-known fact that weights and measures in India have never been settled upon an organized system for the country as a whole or even for provinces. In India, as in other countries, the increase of communications and of commerce and industry has resulted in a widespread demand for greater uniformity in marketing, and therefore, in a demand for a more uniform system of weights and measures applicable to the country as a whole. The need is all the more felt because of the more centralized Government which has come to stay in India. So far the whole of India was never under one sovereign.

Recommendations of the Weights and Measures Committee.—The Weights and Measures Committee appointed by the Government of India, after a careful examination of the whole question made the following recommendations in their report: "We, therefore, conclude that there is a widespread desire and necessity for the establishment of a uniform system of weights and measures throughout India and that action should be taken for the establishment and maintaining such a system; and the system to be adopted should be for India the Indian railway weights:—

8 Khashkhas	= 1 Chawal
8 Chawal	= 1 Ratti
8 Ratti	= 1 Masha
3 Mashas	= 1 Tank
12 Mashas	= 1 Tola
5 Tolas	= 1 Chatak
16 Chatak	= 1 Seer
40 Seers	= 1 Maund.†

How to Popularize these Weights.—"To popularize these weights, there is on the whole a preponderance of opinion in favour of the Government supervising it in some way or the other. It is suggested that the Government should pass an All-India Act, refuse licences to the manufacturers of weights, and even employ inspection staff or by some other means suitable."

Government of Bombay Weights & Measures Act of 1932.—The Government of Bombay in the year 1932 passed an Act called the Bombay Weights and Measures Act, and have framed rules under this Act, which are put into force from August, 1935. According to this Act, standard weights are:—

The Bombay Tola of 180 grains
The Bombay Seer of 80 tolas

*Report of the Weights and Measures Committee, (1918), p. 1.

†Ibid, p. 165.

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The Bombay Maund of 40 seers

The sub-multiples, $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{16}$, $\frac{1}{32}$, and the multiples 2, 4, 8 of the tola, seer and maund.

This is certainly a step in the right direction, and it is hoped that the Act will regulate and standardize weights and measures in the city and the Presidency of Bombay. But the Act is such, that it is not applicable to the whole of India. As the whole of India is now knit together like the arteries of a living animal, and there is large inter-provincial trade, it is but essential that the Act should be of an All-India nature on the lines suggested by the Weights and Measures Committee of the Government of India, referred to above.

VI. Sympathetic Railway Rates

Another need of the oilseed trade is the sympathetic rate policy of the railways. A study of Chapter IV has shown us that rates for oil-seeds suffer from several anomalies and discrepancies. They are so framed as to encourage the flow of oil-seeds to port-towns, and that is understood to be encouraging the export of seeds. This policy of the railways in India is said to be working not in the interests of the oilseed trade in general, and the oil pressing industry in particular, as it discourages the establishment of oil mills in the interior industrial centres. This has been the long-standing complaint of the public, which the railways in India have not been able to redress, in spite of the recommendations of the several committees and commissions. The Indian Industrial Commission of 1916-18, which was the first to consider this question laid down a principle in their report which the railways have so far not found it advantageous to follow. The said principle runs as follows:—

"The governing principle which we think should be followed in railway rating, so far as it effects industries, is that internal traffic should be rated as nearly as possible on an equality with traffic of the same class and over similar distances to and from the ports.*"

The acceptance of this principle would remove most of the existing complaints, and would tend to have a beneficial effect on the Indian Vegetable Oil Industry.

Another direction in which the oilseed trade needs the sympathy of the railways is the proper classification of seeds. Whereas most of the oil-seeds are classed under "Seeds Common" and charged as Class I; groundnut which is one of the most valuable oil-seed crops of India is classed under Class IV for which the railway rate is much higher than on other seeds. This can be considered to be a disparity in the classification of goods. We understand that in spite of several representations of different Chambers of Commerce the railways have not seen their way to put groundnut in Class No. I in which almost all the other seeds, except coconut kernels, are classed. We are glad to notice that of late the Indian Railways Conference Association has been considering the question of preparing a revised Goods Tariff, and have appointed a small committee to go into the question. We understand, that the Committee has invited

**Indian Industrial Commission (1916-18), p. 205.*

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suggestions from the commercial bodies. We hope that the various oil-seed organisations and the Indian Merchants Chamber will be able to present a strong case for the inclusion of groundnut among "Seeds Common" along with other seeds.

VII. Produce Exchanges

Produce Exchanges is the seventh need of the oilseed trade. A Produce Exchange is a voluntary association of dealers in a single market that usually handles one commodity or a narrow range of commodities. A Produce Exchange is to be differentiated from a Trade Association which also consists of dealers in a single trade or closely allied trades, but in several localities. The activities of such organisations have to do with questions of general interest to trade as a whole, such as freight rates, settlement of claims, State legislation, etc., whereas, a Produce Exchange has generally the following primary functions:—

1. "To provide a convenient market or trading place."
2. "To regulate business dealings of members."
3. "To provide a system to facilitate the settlement of trade disputes."
4. "To establish uniform grades and a system of inspection."
5. "To inquire and to disseminate market information."*

It may be here remarked that almost all the Associations of oilseed traders that exist in the terminal market of Bombay have one or two of the above functions included among their objects, but because of their puny size and lack of funds they have found it next to impossible to discharge those functions. Those functions are merely put on paper, probably as ideals to be achieved. For instance, not a single trade association has a trading room to enable traders to meet and transact business with the greatest convenience. It is very desirable that a Produce Exchange for oil-seeds on the lines of grain exchanges in the United States of America be formed in the terminal market of Bombay.

In order that we may understand the functions of a Produce Exchange and how it works to carry out its functions, we give below a description of the Minneapolis Grain Exchange called the Chamber of Commerce of Minneapolis.

The Chamber of Commerce of Minneapolis.—The Chamber of Commerce of Minneapolis is a voluntary association of individuals engaged in some branch of grain, milling and linseed oil business. This association is a form of business corporation, under a statute of the State of Minnesota, which provides for associations of this character. This statute does not confer any special privileges upon the Chamber of Commerce of Minneapolis; and under the statute, any number of persons, not less than three, can organize a similar grain exchange in any city, town, village or county in the State, and they will possess all of the rights and privileges which the Chamber of Commerce of Minneapolis possesses.

*L. D. H. WELD. *The Marketing of Farm Products*, pp. 266-7.

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The Chamber of Commerce of Minneapolis, that is, this voluntary association of individuals, is not engaged in any branch of the grain or milling business. The sole purpose and function of the association is to operate a grain market place, where the buyers and sellers of grain may transact business with the greatest convenience. The association, as a whole, never buys or sells a bushel of grain, has no interest in or control over the price of grain, and its activities are all limited to the maintenance and operation of the market place.

The first duty of the association is to provide a suitable trading or exchange room, where the buyers and sellers of grain and flax seed may meet and transact business.

The Chamber of Commerce Exchange Room.—The recently enlarged exchange room of the Chamber of Commerce of Minneapolis is not only one of the largest, but one of the most modern trading rooms in the United States. This room is approximately 180 feet long, 80 feet wide and 34 feet high. In the examination of grain by buyers and sellers, good light is very important, and in this feature the enlarged trading room of the Chamber of Commerce of Minneapolis excels, the light facilities being exceptionally desirable. Nearly one-half of the trading floor is filled with cash grain tables, on which the sellers of grain display samples taken from the cars of grain.

Minneapolis is pre-eminently a "sample" market, grain being bought and sold largely by sample. These cash grain tables are rented to the members, and are being provided with telephones connected directly to the offices of the grain dealers.

In the centre of the trading room is the space occupied by the North American and Western Union Telegraph Companies. These telegraph facilities enable the members to communicate promptly with the country shippers and with the Eastern buyers.

Opposite the telegraph counters are the long-distance and local telephones. A very large amount of business is transacted by long-distance telephones, between the members, North-Western shippers and Eastern buyers.

At the end of the room opposite the cash grain tables are the "pits," used by those engaged in buying and selling grain for "future" delivery. These "pits" consist of a series of steps in the form of an octagon. This arrangement of steps has proved to be the most convenient for the transaction of this business, and enables each dealer in "futures" to see at all times practically all of the other dealers in "futures", which would be impossible if trading were conducted on a flat floor.

Between the pits is the "pulpit", where the official recorder stands, whose duty it is to keep a record of the "future" prices. On his right is the individual who operates the ticker service, by means of which the quotations are sent out to the tickers in Minneapolis and St. Paul, and which are printed on narrow strips of paper called "tape." On his left is the telegraph operator, whose duty it is to send out to the other exchanges of the country the Minneapolis "future" quotations.

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Quotation Black-board.—On the south side of the room is the main black-board on which—immediately opposite the “pit”—are displayed the continuous quotations, which are received by the telegraph companies from the other grain exchanges, such as Winnipeg, Duluth, Chicago, etc. On this black-board are fastened telegraph “sounders”, and Western Union operators receive from these sounders quotations sent from other grain exchanges; and immediately post the same upon the blackboard.

In addition to the continuous quotations mentioned above, the Chamber of Commerce secures and posts upon the black-board statistical information, such as the visible supply of grain, which shows the total amount of grain in store in the leading grain centres of the United States.

The Minneapolis cash sales of grain, as reported by the members, are also posted upon this black-board.

On the same side of the room, but opposite the cash grain tables, is another black-board, on which an employee posts the “future” quotations of Minneapolis and the other leading grain exchanges. These quotations are telephoned to this employee by an observer in the ‘pulpit’ adjacent to the ‘pits.’

Opposite the main black-board is the visitors’ gallery. At the extreme end of the room, adjacent to the cash grain tables, are six illuminated “clocks”. Also on the railing of the upper platform of the black-board are six illuminated “clocks.” These “clocks” are arranged to show the leading “future” month’s quotations in the Minneapolis “futures” in wheat, corn, oats, barley, rye and flax. Both sets of these “clocks” operate simultaneously and are operated by electric switches under control of the official recorder in the pulpit which is located adjacent to the pits.

These clocks, and the cash grain black-board quotations keep the buyers and sellers of cash grain constantly informed regarding the values in other markets, as well as prices which are being paid at Minneapolis for grain for “future” delivery. On both sides of the pits, and immediately adjacent thereto, are private telephone booths connected direct with the offices of those engaged in the buying and selling of grain for “future” delivery. On account of the noise invariably connected with operations in the pits, these telephones are of a special design, which enable the individual using the same to communicate with his office without interference.

Newspaper Representatives.—In the centre of the room, between the telegraph counters and the cash grain tables, are the desks of the newspaper representatives. Among the most important services rendered by the Minneapolis Chamber of Commerce, and other grain exchanges to the public, is the gathering and disseminating of complete information regarding the prices of grain, throughout the country. No charge is made to the newspapers for the space occupied in the exchange room by their representatives, who are offered every opportunity to secure and disseminate through the press all possible information which may be of value to the producers and shippers of grain throughout the North-west. The Minneapolis daily papers

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all carry a "market" page, and these papers, going out to the producers and shippers in the North-west, shortly after the close of the market in the afternoon, give to the producers and the general public exceptionally complete information regarding the values of grain in the various markets of the country. The gathering of this information by telegraph from the various markets of the country is a source of very considerable expense to the Chamber of Commerce of Minneapolis. The whole of this information is presented to the general public each afternoon free of charge through the newspapers; and the grain exchanges of the country undoubtedly perform an extremely valuable service to the public in this manner.

It may be perhaps difficult to start a Produce Exchange for oil-seeds of the same magnitude as that of the Chamber of Commerce of Minneapolis but a beginning in that direction will certainly be a step in the right direction.

VIII. Warehousing

The eighth need of the oilseed trade is the construction of sanitary warehouses for the storage of oil-seeds. Warehousing is as important to trade as the railroad or the bank. Indeed what bank is to money warehouse is to storable commodities. It is a safe depository; it carries a reserve to guard against want and famines. "The inflow and outflow of the volume of storage business is one of the best indices of the degree of business prosperity."* So essential is the proper functioning of the warehouse system for the general welfare that special laws have been passed in other countries to regulate it. Unfortunately in India no regulated system of warehousing exists. A study of this subject in a previous chapter has shown us that there is almost complete absence of sanitary warehouses for the storage of oil-seeds. Any vacant place, unfit for human habitation, is used as a warehouse at the primary markets in the hinterland of Bombay, and the condition of warehouses in the terminal market of Bombay is no better. It is highly desirable that a Warehouse Act on the lines of the United States Warehouse Act of 1916 be passed. The purposes of this Act which was passed in the United States of America as early as 1916 are (1) to encourage proper storage of agricultural products, (2) to encourage proper and uniform practices in warehousing and eliminate unsound or questionable practices, and (3) to develop a warehouse receipt generally acceptable to bankers for loans on agricultural products.

This Act provides for the licensing of public warehouses storing agricultural products so that the integrity of their warehouse receipt may be beyond question. A public company, which wishes to obtain a licence under the above Act, is required to fulfil the following requirements:—

- (a) A suitable warehouse for the storage of products.
- (b) A competent man in charge of the warehouse.
- (c) The person in charge must have good business reputation.
- (d) The person in charge must have a certain amount of assets.

*C. S. DUNCAN, *Marketing, its Problem and Methods*, p. 180.

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- (e) He must have proper equipment to take care of the products.
- (f) He must be able to weigh and grade products correctly.
- (g) He must furnish an acceptable bond for an amount fixed by the U. S. Dept. of Agriculture.

Any merchant who stores his products in such a warehouse gets a receipt which contains a description of goods stored, their weight and grade. Such a receipt can, in time of need, be taken to a bank and used as a collateral for loan. These warehouse receipts are called Federal Warehouse Receipts.* This Act has been amended from time to time and made more comprehensive. The warehouses under this Act also furnish protection against loss and damage from weather. These warehouses are inspected by Government, at least four times in a year, for which the Government makes a nominal charge. Business men and farmers have very much appreciated this institution and the number of Federal Warehouses has been on the increase so much so that almost every district in the U.S.A., which produces agricultural products, has a number of such warehouses. The need for the passing of such an Act in a country like India can hardly be minimized. It is certain that the passing of such an Act would go a long way in regulating and systematizing business in agricultural products in general, and oil-seeds in particular.

Recommendations and Findings of the Banking Inquiry Committee.—The question of constructing warehouses for agricultural produce attracted the attention of the Banking Inquiry Committee in 1931. The Committee, recognizing the importance of warehouses as a definite link in the trade of agricultural products in India, suggested the starting of warehouses in India. In spite of the difficulties and the deep-rooted objection of the cultivator to the pooling which alone is a serious obstacle to the scheme of warehouses, the Committee said: "We, however, feel that experiments should be made at selected centres, and the benefits of standardization, grading and pooling, should be brought home to the agriculturist by this means and by propaganda and education, as the warehouse receipts would be welcomed in the money market and would be a very effective means for cheapening the rate for marketing finance. We should like to note that similar difficulties existed in Canada as late as 1907, but have been overcome by educative propaganda and experience of the services of the warehouses. We, therefore, recommend that the question of providing warehouses by private agencies and licensing them and the provision of capital for their construction, be taken by Provincial Governments. The Imperial Council of Agricultural Research, which is materially connected with marketing, a subject coming under the purview of the work of the Council under its constitution, might also co-ordinate the efforts of the Provincial Governments in this matter."† The Committee also recommended that Provincial Governments should consider the desirability of advancing long-term loans at concessional rates of interest to co-operative societies to build godowns in centres which provide good markets. We

* C. S. Duncan : *Marketing, its Problems & Methods*, p. 381.

† *Report of the Central Banking Inquiry Committee*, Vol. I, p. 222.

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take the liberty of annexing in the appendix a copy of the draft bill submitted by the late Mr. B. F. Madon to the Central Banking Inquiry Committee for the establishment of such warehouses.

IX. A Central Organizing Body

The last need, though not of the least importance, is the institution by the Government of a central organizing body on the lines of the Indian Central Cotton Committee. At present in the terminal market of Bombay the trade in oil-seeds is done under the auspices and regulations of as many as the following four associations:—

1. The Grain Merchants' Association.
2. The Seeds³ Traders' Association.
3. The Marwari Chamber of Commerce.
4. The Grain and Seed Brokers' Association.

While it is true that the first named body is by far the most important one, representing as it does nearly all the important grain merchants in Bombay each of whom pays the minimum contribution of 8000 bags of grains and seeds sold and delivered, it has been remarkably slow in assimilating modern trade practices; with the result that the other bodies had to step in to take the place of its legitimate scope of work in order to meet the necessities of a growing and expanding market. According, therefore, to the present arrangement the spot transactions in linseed in Bombay are entered into under the rules and regulations of the Grain Merchants' Association, while the future market in linseed is regulated by the rules of the Marwari Chamber of Commerce of Bombay, and the future transactions in castor seed, groundnut and cotton seed are mainly done under the rules of the Seeds Traders' Association. There is no regulated "futures" market for other kinds of seeds, though trade in them is by no means small. Trade in copra is regulated by the rules of the *Kariana* Merchants' Association, which is an association organizing trade in spices, etc.

"The existence of a number of bodies, each having its own rules and regulations, is detrimental to the growth of uniform rules of business and various other arrangements. Sometimes the interests of these bodies prove to be conflicting and the difference between the types of contracts, rules for survey and arbitration remove the element of calculation which is so essential for a healthy development of trade."* Again, because of the puny size of these associations they cannot make a strong representation or, as a matter of fact, take any line of action. This is one of the reasons why these associations have not so far been able to have an Oilseed Exchange in the Bombay Market. Again, because of their small size and inadequate resources they cannot act as Bureaux of Information for oil-seeds which would supply information regarding production, marketing, supply, etc., of oil-seeds to any one who needs it. The result of this is that the oilseed trade in India is not properly organized

*M. H. GANDHI, *Some Problems of the Seeds Trade and Industry*, p. 11.

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and suffers from many diseases which need the hand of an expert physician.

Work of the Indian Central Cotton Committee.—Several years ago the cotton trade of India suffered from similar defects until the present Indian Central Cotton Committee was formed in 1921. The Committee has now been in existence for over seventeen years and during this period, by combining scientific research with practical progress, has been responsible for valuable work in all directions. It has promoted the interests of the growers of cotton by the enforcement of the Cotton Transport Act in several areas, thus maintaining standards of quality of cotton grown there and preventing adulteration with inferior types. It has also enforced the Cotton Ginning and Pressing Factories Act, which provides for the marketing of bales so that adulteration and other malpractices can be easily traced to their origin. The Committee has also urged the necessity of standardizing weights and measures so as to prevent growers from being defrauded when marketing their produce, and a bill for the standardization of weights and measures in the Bombay Presidency as already referred to has become law. The Committee runs under its auspices a technological laboratory for carrying on research work in connection with cotton.

Organization of a committee on the lines of the Indian Central Committee will go a long way in removing some of the handicaps and weaknesses in the oilseed trade of India. Such a committee can render a very useful service to the cause of the oilseed trade.

Work of the Oilseed Committee.—The Committee with the help of the agricultural departments can carry on a propaganda work among the villagers to grow better type of seeds, and to desist from bad practices like damping of groundnuts before shelling. The Committee can urge the Government to pass the Marketing Act and to standardize weights. The Committee can even approach the railways to frame rates in such a way as would be in the interest of the oilseed-crushing industry. The Committee could also help in the organization of trade in Bombay. In short, the Committee would prove a real boon to the trade.

It is not merely the facility for carrying on agricultural research in regard to oil-seeds that is necessary at this juncture, though that will be one of the branches of activity of a central body that is contemplated. There are questions connected with their marketing, right from the village to the inland and from there to the exporting ports, which are equally important. From an industrial point of view also, the oilseed-crushing industry has all the possibilities of a fruitful development, if only it could be satisfactorily organized, and all the by-products profitably utilized. From the standpoint of magnitude, variety and intensity of work connected with it, the oilseed-crushing industry alone will justify the institution of a central body.

Example of Other Countries.—It is interesting to remember the example of other countries which have taken such long

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strides in the development of oil-crushing industry and the seeds trade in recent years. Both England and Germany bear in this connection eloquent testimony to the value of concerted action and an active vigilant policy directed towards an all-round development. "Before the War the German oil-crushing industry was in its infancy, but it began to be felt that it could be developed to a great extent. The question of its development attracted Germany's best skill and enterprise. Customs tariffs were manipulated, port dues were reduced, transport charges were kept at their minimum and the co-operation of the banks was secured in order to finance the industry and give to the foreign purchaser a long-term credit. The industry in a few years was so greatly developed that a few years ago, Germany was selling oils and oilcakes even in England in spite of the fact that Hull was already a great centre of oil-crushing industry."*

Equally effective steps were taken by England to revive the oil-crushing industry at Hull and to capture the trade in oil-seeds; and the story of oilseed trade and industry in England also furnishes a fine example of what the co-operation of all agencies can achieve. In India, therefore, the importance of a central body devoted to the encouragement of seeds trade and oil-crushing can hardly be exaggerated, because there is at present no institution which would keep a constant watch on the international centres of trade, carry on researches and advise Government and industrialists on questions connected with the industry.

Views of the Royal Commission on Agriculture.—The Royal Commission on Agriculture in India, which at one place dismissed the idea of establishing a central body for oil-seeds, saw no particular objection to the institution of a crop committee if the trade were prepared to bear its cost. There are already such bodies working on this principle. We have, for instance, a cess of 6 annas which is levied on every hundred pounds of tea exported from India. The proceeds of this cess amount to about 12 lakhs of rupees a year and this large amount is spent by the Tea Cess Committee, to which it is made over, to promote the interest of the tea industry. There is a similar cess on the exports of lac and this amount is realised by the Indian Lac Association for research. The Indian Agricultural Commission took these facts into consideration and opined that, "if any particular trade felt that its interests are not sufficiently recognised by the proposals we have put forward with regard to research generally, we see no objection, whatever, to the institution of an organization on the lines of the Indian Central Cotton Committee to deal with its special problems, provided that it is willing to tax itself for the purpose." And again, "if any other trade is willing to submit to a similar cess for the purpose of promoting additional research on the product in which it is interested, and generally, of advancing the solution of all problems connected with the cultivation, marketing and manufacture of that product, it should be encouraged to do so;

*M. H. GANDHI, *Some Problems of the Seeds Trade and Industry*, p. 19.

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but such cesses should, in our view, be imposed only with the consent and at the instance of the trade.”*

It is, therefore, clear that the Commission, far from disparaging the institution of a central organization, were prepared to encourage the idea of having special committees for important crops and industries if sufficient funds were available through a cess, levied with the consent of the trade concerned, and the problems involved were greater in scope than existing facilities for agricultural research could solve.

The Composition of the Central Committee for Oil-seeds.—Difficulties in regard to finding a proper personnel for the committee are not insurmountable. It is, however, necessary to emphasize the importance of having each and every interest properly represented so that the problems coming up for disposal would be handled in a spirit of broad-mindedness and with an eye to the ultimate benefit of the country as a whole. It must not be the aim of the organization to benefit one section at the cost of the other, to foster, for instance, an undue development of export trade at the risk of sacrificing the prospect of industrial development, nor should the interests of the agriculturists, the primary producers, be ignored. Indeed the chief justification for the establishment and existence of such an organization, as is contemplated, should be the ultimate gain to the agriculturists. That can only be secured by a proper organization of marketing and trade which should be properly represented.

Question of Funds.—It remains then to consider the best method of levying the cess, which would give a return sufficient to finance a central body. We expect that a sum of 5 lakhs of rupees a year would be adequate to start with, and it would be most easy and expedient to levy the cess on the export of seeds. Unlike cotton, and jute, seeds are crushed in individual homes, and it would be difficult, if not impossible, to set up a machinery for the collection of a cess on the small quantities of seeds crushed in the old-fashioned mills. It may be possible, however, to collect it from bigger power-driven mills, but as the industry in its initial stage needs to be protected and even encouraged, it would not be a wise policy to tax it by even a small cess. A small cess, however, on the seeds that are exported would be the most economical to administer and the most harmless. The machinery needed for its collection, should be small, and therefore, not expensive, and with a suitable arrangement with the port authorities at the principal ports, the tax could be cheaply collected. Calculating the export of oil-seeds at roughly one million tons in a year, a cess of only eight annas a ton would be sufficient to raise a sum of rupees five lakhs, and the enhancement in the price as a result of the cess would be less than a quarter of a per cent. It is clear that such a cess would not tend to diminish the exports. Indeed, a great share of it will fall on the foreigners. While it is true that if a heavy export duty be levied that would ultimately be borne by the producers of oil-seeds, the same

*Report of the Royal Commission on Agriculture in India, p. 63.

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cannot be said of a small cess which would be four or five hundredth part of the price.

It is interesting to note that the idea of levying a small cess on the exports of oil-seeds had found favour with the Fiscal Commission, which was appointed under the presidentship of Sir Ibrahim Rahimtoola, Kt., to examine, with reference to all the interests concerned, the tariff policy of the Government of India and to make recommendations. During the course of their report the Commission exhaustively dealt with the question of export duties, and came to the conclusion that the imposition of export duties was inadvisable for the protection of the industry and that for revenue purposes also, they should be sparingly and with great caution employed. Basing their reasoning on these general principles, the Commission deprecated the idea of levying export duty on seeds. But at the same time, the Commission saw no objection to the levying of a small cess on oil-seeds with the consent of the trade concerned.

It is, therefore, clear that the imposition of a small cess on exports, has nothing against it, both in principle and practice, because all expert opinion has always favoured the idea of its imposition and the task of collecting it is the easiest and the cheapest. In the case of oil-seeds, again, we are in a better position as regards world's supply than in most other crops, except jute, so that a small cess would be borne by the foreigner without a grudge.

SCHEME FOR THE CENTRAL OIL-SEED AND OIL INDUSTRY COMMITTEE

In this connection we note with satisfaction that at one of the meetings of the Indian Oil-Crushing Industry Committee of the Imperial Council of Agricultural Research, Delhi, it was decided that the Agricultural Expert to the Imperial Council of Agricultural Research should prepare for submission to the Advisory Board and the Governing Body, a scheme for a permanent Oil-seed and Oil Industry Committee equipped with an Intelligence Bureau for collecting statistics and technical information for supply to all sections of the trade and industry, agricultural departments and growers' organizations. This Committee would, amongst its other activities, further investigate the necessity and practicability of an oilseed-cess to provide funds for an enlarged Central Oil-seed and Oil-Industry Committee and for agricultural and technological research. The Agricultural Expert submitted a report to the Advisory Board of the Imperial Council of Agricultural Research. It was generally approved by the members of the Committee subject to some matters of detail. The following extract from the report submitted by the Agricultural Expert is worth noting.

"A Central Committee which will have control of substantial funds raised by an oilseed cess would need to be of a representative character. As oil-seeds are of importance to most provinces and many States and since provision has to be made for the representation of the grower, the industrialist, and the trader as well as the Agricultural and Industries Departments, the

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Committee would need to consist of about 40 members. The original Indian Central Cotton Committee was as large as the Committee incorporated by the Cotton Cess Act of 1923."

"There would be definite advantages in establishing a representative Central Oil-seed and Oil Industry Committee. But the experiences of the Indian Central Cotton Committee indicate that a committee of such a size, if it were a live body, would necessitate, even at the outset, an annual expenditure of fifty thousand rupees. Under the present financial circumstances, it would seem necessary to start on a more modest scale. The suggestion is, therefore, put forward that for the time being the present committee, which though small is of a representative character, should constitute the Central Committee, addition to the number, not exceeding six, being made as the need for representation of special interests appears. Two immediate additions to represent the export and merchanting aspect would seem necessary, viz., one member each to represent the Associated Chamber of Commerce and the Federation of Indian Chambers respectively. The present committee contains no representative of agricultural departments and would be much strengthened by the addition of two officers with special experience in agricultural research in oil-seeds."

"The Bureau of information and Statistics with which it is proposed to provide the Committee is to collect information and statistics which will be passed on to the industry on the lines adopted by the Sugar Bureau at present. The Bureau would also study the position of the industry, collect statistics of the quantities of the various oil-seeds available, where they are concerned, details of oil and oil-products manufactured in India and imported and, in general, information regarding the production, marketing and consumption of oil-seeds and their products."

"It would also obtain information relating to foreign markets and of the progress of the oil-crushing industry in other countries. It is intended that the Bureau should also issue a quarterly or half-yearly technical bulletin for the assistance of the oilseed trade and oil-crushing industry."

"Turning to the question of cost, the Sugar Bureau is a good parallel and has the following staff:—

- One head clerk,
- One typist,
- Two clerks,
- Five peons and menials.

The total cost of the above being Rs. 4,860/- rising to Rs. 5,604/- in three years. The Oil-seed Committee will doubtless require a highly qualified technical secretary, but in the meantime a secretary who can run the office, look after the statistics and work up the material provided for the committee might suffice. This would cost Rs. 6,000/- per annum. Allowing Rs. 5,000/- for travelling allowance of members and staff and Rs. 3,000/- for office expenses and contingencies the annual cost of the Committee would come to Rs. 20,000/-. For reasons of

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economy it would be desirable to have the office of the Committee at Delhi. The above appears to be an exceedingly modest expenditure on such an important group of problems even during a period of financial stringency."

"To summarise, it is recommended that the Imperial Council of Agricultural Research should establish a permanent Central Oil-seed and Vegetable Oil Products Committee, consisting of about 16 men with a full-time secretary and with a small Information and Statistical Bureau at an estimated cost of Rs. 20,000/- per annum. The question of enlarging the committee and of providing it with adequate funds by means of a cess should be further examined by the Committee now proposed with a view to action being taken when circumstances are favourable."* Here we find a step in the right direction that is being proposed to be taken by the Government of India and we feel confident that such a Committee, if instituted, and properly worked like the Indian Central Cotton Committee, would go a very long way in curing many of the ills and imperfections from which the oilseed trade of India suffers. We can close our thesis by expressing a hope for the early establishment of such a Central Committee for oil-seeds.

*Proceedings of the third meeting of the Indian Oil-Crushing Industry Committee of the Imperial Council of Agricultural Research, pp. 114-115.

APPENDICES

APPENDIX A.

PART I

*RULES OF THE GRAIN MERCHANTS' ASSOCIATION RELATING TO REFRACTION AND QUALITY IN OIL-SEEDS IN BUSINESS ON DELIVERY TERMS BASIS.

Linseed Delivery Terms.—The following are the rules relating to refraction and quality in linseed.

(1) Refraction†:—

- (a) Refraction basis 4% reciprocal.
- (b) All foreign matters and grains other than oil-seeds shall be considered as dirt.
- (c) Oil-seeds up to 2% shall be worth half the contract price; excess over 2% shall be considered as dirt.
- (d) Dead seeds shall be worth $\frac{3}{4}$ of the contract price.

(2) Quality:—

- (a) Damaged seeds shall be calculated as follows:—
 - (i) Damaged seeds shall be worth half of the contract price.
 - (ii) Slightly damaged seeds shall be worth three-fourths of the contract price.
 - (iii) Discoloured seeds (pucca grains) and/or touched grains in excess over 1% shall be worth $\frac{7}{8}$ of the contract price.
- (b) 10% of small grains in deliveries against contracts for Brown Bold linseed shall pass without allowance.
- (c) For small grains in excess of 10% in tenders against contracts for Brown Bold linseed, sellers shall pay proportionate difference in price, ruling between Bold and Small linseed on the day on which the goods have been tendered.
- (d) If more than 35% of small grains are found in a tender against a contract for Brown Bold linseed, buyers shall have the option to reject the tender.
- (e) No guarantee regarding the percentage of Bold seeds shall be given in the contracts for Raipur and Satna qualities. They shall be judged according to the crop of the season of those districts.

* These rules have been translated from the Gujarati text.

† The word "refraction" is a technical term and means dirt etc., present in the seeds.

In order to determine the percentage of refraction, as well as foreign matter and other oil-seeds, and to arrive at the quality the sample drawn out of the 10% bags out of a lot as per clause No. 2 (c) is subjected to a process of close analysis. The weight of the sample taken for analysis is not to be less than 105 tolas. The sample is first of all passed through a special set of four sieves, which allow dirt, foreign matter, non-oleaginous seeds, as well as other oil-seeds to be separated. The percentage of each of the above present in the sample ascertained with the help of scales in which the contents of each sieve are weighed. The work of analysis of seeds is a complicated one and is generally entrusted to experts. The Seed Traders' Association and the Grain Merchants' Association maintain analysis departments.

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Rapeseed Delivery terms:—(Refers to all description of rapeseed).

(1) Refraction:—

- (a) Refraction basis 4% mutual.
- (b) Oil-seeds other than rapeseed and jumba up to 2% shall be worth half the contract price, excess over 2% shall be counted as dirt.
- (c) All foreign matter and grain shall be considered as dirt.
- (d) Jumba seed up to 5% shall be considered as worth half the contract price and any excess above 5% to be considered as dirt.
- (e) *Dead seed:—(Raira) shall be worth $\frac{3}{4}$ and fully white half of the contract price.

(2) Quality:—

- (a) Damaged seeds shall be worth half the contract price.
- (b) Slightly damaged seeds up to $\frac{1}{2}\%$ shall pass, excess over $\frac{1}{2}\%$ shall be worth $\frac{3}{4}$ of the contract price.
- (c) In the case of "Brown Cawnpore Rapeseed" 55% of small grains shall pass, for every 1% in excess of 55% sellers shall pay an allowance of 1 pie per cwt.
- (d) In the case of "Yellow Cawnpore" 15% of Brown and coloured seeds other than yellow are allowed. For excess over 15% an allowance shall be paid to buyers on the basis of difference in the price ruling on the day of delivery (on Railway terms on the day of the arrival of goods at railway station) between "Yellow Cawnpore" and "Brown Cawnpore."
- (e) In case of "Yellow Gujarat" $12\frac{1}{2}\%$ of brown and coloured grains† other than yellow are allowed. For excess over $12\frac{1}{2}\%$, an allowance shall be paid to buyers on the basis of difference in price ruling on the day of delivery, (in case of Railway terms on the day of arrival of goods at railway station) between "Yellow Gujarat" and "Brown Cawnpore".
- (f) In the case of "Marwar rapeseed" clauses 2 (d) and 2 (c) shall not apply. Quality allowance shall only be payable in respect of clauses 2 (a) and 2 (b).

Gingelly Seed Delivery Terms:—

(1) Refraction:—

- (a) Refraction basis 4% reciprocal.
- (b) Other oil-seeds up to 2% shall be worth half of the contract price, excess over 2% to be considered dirt.
- (c) All foreign matter and grain shall be considered as dirt.
- (d) Dead seed shall be worth $\frac{3}{4}$ of the contract price.

* Note regarding dead seed (Raira).

1. Shrivelled up seeds containing no oil to be considered as dead seed (Raira). 2. Sound but flat seeds not to be considered as dead seed (Raira). 3. Dead seed (Raira) shall not be powdered in the palm of the hand.

† Generally speaking, Yellow Gujarat does not contain more than 7 or 8% of brown or coloured grains.

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(2) Quality:—

- (a) Damaged seeds shall be worth $\frac{1}{2}$ of the contract price.
- (b) Slightly damaged grains and/or touched up to 1% shall pass, excess over 1% to be worth $\frac{3}{4}$ of the contract price.
- (c) In case of gingelly seed "Bold Cawnpore", "Gujerat," "Kandesh" 85/15% the basis shall be 85% of white seed and 15% of coloured seed. For excess of coloured seed over 15% proportionate difference in rates ruling on the day of delivery between 85/15 Bold and other descriptions of Bold shall be paid by sellers.
- (d) In case of gingelly seed "Bold Cawnpore", "Gujerat," "Khandesh" 75/25% the basis shall be 75% white seed and 25% coloured seeds. For excess of coloured seeds over 25% proportionate difference in rates on day of delivery between other descriptions of Bold to be paid by sellers.
- (e) In case of "Gingelly Seed Bold" 50/50, a tender to contain 50% of white seed and 50% of coloured seed. For excess over 50% of coloured seed proportionate difference in price to be paid by sellers on the basis of difference in rates ruling on the day of delivery between Gingelly Seed Bold 50/50 and black Bold.
- (f) In case of Bold Gingelly Seed 30% of small grains shall pass. For excess over 30% sellers shall pay allowance according to difference in price between Bold and Small on the date of delivery.
- (g) In case of "White Howri Gingelly Seed" 5% of coloured seed to pass, for excess over 5% of black and red an allowance shall be paid by sellers of 5 pies per cwt. for every 1% in excess of 5%.
- (h) White Howri to be considered as small seed and there shall be no question of Bold or Small in the analysis.
- (i) In contracts of "Black Gingelly seed" of all descriptions there is no stipulation for coloured seeds.
- (j) In case of gingelly seed "Small White Allahabad 95/5%," the basis shall be 95% white seed and 5% black or coloured seeds, for excess over 5% an allowance to be paid at the rate of 3 pies for each 1% exceeding 5%. If percentage of black or coloured seeds exceeds 25%, buyers have the option to reject the tender.
- (k) In case of gingelly seed "Small White 85/15 per cent." the basis shall be 85% small white and 15% black and coloured seeds, for excess over 15% an allowance shall be paid at the rate of 3 pies, per each 1% exceeding 15%.
- (l) In case of gingelly seed "White Secunderabad" yellow seed to be considered as white, 15% black and coloured seed to pass, for excess over 15% an allowance of 3 pies for every 1% to be paid.
- (m) In gingelly-seed white of all descriptions (except in White Secunderabad for which see clause above).

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- (i) Yellowish seeds up to 15% to be considered as white grains.
- (ii) An excess of yellowish seeds over 15% to be considered as off-coloured.
- (iii) Off-coloured seed [*i.e.*, seed not entirely white other than those described in (m) (i) and (ii)] shall be considered as half-white and half-coloured black seed.
- (n) In the case of "Yellow Gingelly-seed Purbia," "Marora," "Kathiawar," & "Harda" qualities, red, white and black seeds up to 10% pass without allowance, for excess over 10% an allowance to be paid at the rate of 3 pies for every 1% over 10%. For a tender containing more than 20% white, red and/or black seeds buyers have the option to reject the tender.
- (o) In case of "Secunderabad Purbia" red, black and white seed up to 15% to pass. For excess over 15% an allowance shall be paid at the rate of 3 pies for every 1% over 15%. For a tender containing more than 30% of black and white grains, buyers have the option to reject the tender.
- (p) In case of "Gingelly-seed Red Mugee" 10% black and white seeds pass, for excess over 10% an allowance shall be paid at the rate of 6 pies per every 1% over 10%.
- (q) In case of "Gingelly-seed Red Jubbulpore" 25% black and white pass, for excess over 25% an allowance shall be paid according to the difference in price between Red Jubbulpore and Black Katni on the day of delivery. If the percentage of black and white exceeds, buyers have the option to reject the same.

Castor Seed Delivery Terms:—

(1) Refraction:—

- (a) Refraction basis 4% reciprocal.
- (b) All foreign matter, grain and oil-seeds other than castor seed shall be considered as dirt.
- (c) Dead seeds (hollow) shall be calculated as under:—
 - From 1 to 5 p.c. dead seeds shall be considered $\frac{7}{8}$ as seed and $\frac{1}{8}$ as dirt,
 - From 5 to 10 p.c. dead seeds shall be considered $\frac{3}{4}$ as seed and $\frac{1}{4}$ as dirt.
 - From 10% up to 16% dead seeds shall be considered $\frac{5}{8}$ as seed and $\frac{3}{8}$ as dirt.

If the dead seeds exceed 16% the buyers shall have the option to reject the tender.

(2) **Quality.**—Tenders analysing not more than 12% damaged shall pass without allowance. For tenders containing more than 12% damaged seeds, the following allowance shall be paid by sellers.

From 13% to 17%	1 pie per cent.
From 18% to 20%	2 pies per cent.
From 21% to 30%	3 pies per cent.

Buyers shall have the option to reject a tender containing more than 30% damaged seed.

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Groundnut Delivery Terms.—

(1) Refraction:—

- (a) Refraction basis 4% reciprocal.
- (b) Unshelled nuts (*singh*) found in the sample shall be considered $\frac{3}{4}$ as seed and $\frac{1}{4}$ as dirt up to 10%. Pods in excess of 10% shall be considered as $\frac{5}{8}$ seed and $\frac{3}{8}$ dirt.
- (c) If a tender contains more than 25% unshelled of nuts, buyers have the option to reject the same.
- (d) Very small pieces (*kani*) to be considered as seed 75% and as dirt up to 25%, excess to be taken as half seed and half dirt.

(2) Quality:—

- (a) Against a contract for "Groundnut Bold" sellers may tender goods from Sholapur, Barsi, Kolhapur, Kathiawar and Gujerat districts.
- (b) Damaged seeds shall be worth $\frac{3}{4}$ of the contract price.
- (c) Slightly damaged seed of a light reddish or yellow colour shall be worth $\frac{7}{8}$ the contract price.
- (d) In the contract of groundnuts "Madras Machine Shelled," "Khandesh" and "Karad," the same conditions as those for Bold groundnuts shall apply.

Mowra Seed Delivery Terms.—

(1) Refraction:—

- (a) Refraction basis 4% reciprocal.
- (b) Sample for ascertaining refraction shall be drawn by emptying the six sample bags on the ground and from those six heaps, buyers' representative shall insert his hand once only into each heap.

(2) Quality:—

- (a) No distinction to be made between mowra seed of brown or black colour provided the seeds are not damaged.
- (b) Damaged seeds up to 1% pass without allowance, excess over 1% shall be worth half the contract price.

Poppy Seed Delivery Terms.—

(1) Refraction:—Basis 4% reciprocal.

Cotton Seed Delivery Terms.—

(1) Refraction:—

- (a) Refraction basis 4% reciprocal.
- (b) All foreign matter, cotton (as far as the latter can be removed by hand), grain and oil-seeds other than cotton seed shall be considered as dirt. (No gin to be used for removing cotton).
- (c) Dead seeds (hollow) shall be worth $\frac{3}{4}$ of the contract price.
- (d) If percentage of dead seeds exceeds 20%, buyers' have the option to reject the goods.

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(2) Quality:—

(a) 10% damaged seeds, pass, for excess, sellers pay an allowance:—

11 to 15% .. $1\frac{1}{2}$ pies per cwt. for every 1% over 10%.

16 to 20% .. 2 pies per cwt. for every 1% over 15%.

21 to 25% .. 5 pies per cwt. for every 1% over 20%.

(b) Buyers shall have the option to reject the tender containing more than 25% of damaged seeds.

(c) 5% of "Dharwar" or "Cambodia" seeds pass free of allowance. For every 1% over 5%, an allowance of $\frac{1}{2}$ pie per cwt. shall be paid.

(d) Net weight shall be ascertained by placing one empty bag out of the sample bags with the weights at the time of weighing the sample bags.

(3) **Gunnies.**—Cotton seeds may be delivered in old bags but not patched ones.

Kurdi Seed Delivery Terms.—

(1) **Refraction** 4% reciprocal.

(2) **Quality:—**

(a) In case of "Moglai Kurdi seed" 2% empty seeds pass. Excess worth $\frac{3}{4}$ % of contract price.

(b) In case of "Cawnpore Kurdi seed" 5% empty seeds pass. Excess worth $\frac{3}{4}$ of the contract price. Place of production shall be mentioned in the contract.

Niger Seed Delivery Terms.—

(1) **Refraction:—**

Refraction basis 4% reciprocal. Other oil-seeds up to 2% shall be worth $\frac{1}{2}$ of the contract price, excess over 2% shall be considered as dirt.

(2) **Quality:—**

In case of contracts for "Saugor/Damoh quality," 2% empty seeds pass without allowance. Excess over 2% shall be worth $\frac{3}{4}$ of the contract price.

APPENDIX A

PART II

DETAILED RULES, REGULATIONS AND CONDITIONS RELATING TO WAIDAS BUSINESS IN OIL-SEEDS UNDER THE SEEDS TRADERS' ASSOCIATION, BOMBAY.*

I. LINSEED

Waidas for Transactions.—At present there are two *Waidas* for transactions—May and September months of English Year. Besides, such other *Waidas* as the Association may fix upon.

Transaction.—The transaction shall be at least for cwt. 500 (25 tons) at the price per cwt.

Description of Goods.—Bold Brown Linseed.

Terms.—Rail Delivery Terms—that is to say the seller shall tender Railway Receipts according to the By-laws or send the goods to the buyer's godown.

Bagging.—Two kinds of bagging shall be considered as passed:

(1) C. Bags.

(2) Two Twill bags. Weight of the bagging should be $2\frac{1}{2}$ lbs. If the bagging be inferior to the above, allowance should be given to the Buyers. Such bagging shall be new and of Rail Terms.

Refraction.—Four per cent. more or less to be mutually paid for. All other matters except oleaginous seeds and grain to be taken as dirt. A moiety of oleaginous seed up to 2 per cent. shall count as goods, the other moiety to go in dirt, and beyond 2 per cent. all shall go in dirt. Three quarters of dead seeds shall count as goods, and one quarter as dirt.

Quality.—The price of damaged seeds shall be half of the contract price, that of slightly damaged seeds to be $\frac{3}{4}$ of contract price. Discoloured (Pucca) and/or touched seeds beyond one per cent. shall be valued at seven-eighths of the contract price. Small linseeds up to 10 per cent in Bold Brown Linseed shall pass without allowance, but if small seeds be beyond 10 per cent. up to 35 per cent. the buyer shall receive from the seller allowance proportionate to the percentage of small seeds at the difference between the rates of Bold and small seeds on the date the goods are weighed. If the small seeds be more than 35% the buyer has the option to reject the goods.

II. CASTOR SEEDS

Waidas for Transaction.—At present there are two *Waidas* for transaction—May and September *Waidas* of English Year. Besides, such other *Waidas* as the Association may fix upon.

Description of Goods.—Castor seeds Madras, Cutch, Kathiawar and Gujerat.

Transaction.—The transaction shall be at least for 100 Candies=500 cwts. at price per Candy.

Terms (Dhara).—Bazar terms, that is to say, the buyer shall weigh and take delivery in the seller's godown and while weighing the bagging to count as goods (gross for nett).

Bagging.—To be the same as in Rail Delivery Terms.

*These rules are an exact copy of the Rules and Regulations of the Seeds Traders Association Bombay.

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Refraction.—Four per cent. to be mutually paid for. All articles except Castor-seeds, Oil-seeds and Grains shall be taken as dirt. For hollow seeds in the goods, the same will be treated as under:

From 1 to 5% $\frac{7}{8}$ in goods and $\frac{1}{8}$ in dirt.

If more than 5%—From 1 to 8%— $\frac{3}{4}$ in Goods and $\frac{1}{4}$ in dirt.

If the hollow seeds be more than 8%, the buyer shall have the option to reject the goods.

Quality.—Damaged Seeds up to 12 per cent. shall pass without allowance, but for damaged seeds beyond 12% the following allowance shall be paid by the seller—

From 13 to 17% per each per cent. $1\frac{1}{4}$ pie.

From 18 to 20% per each per cent. 2 pies.

But if the damaged seeds be more than 20%, the buyer shall have the option to reject the goods.

Note: Dead seeds should be ascertained after the calculation of the hollow seeds.

III. GROUNDNUTS

Waidas for Transactions.—At present there are three *Waidas*—February, May and August *Waidas* of the English Year. Besides, such other *Waidas* as the Association may fix upon.

Description of Goods.—Bold groundnut Sholapur/Barsi, Kolhapur, Karad, Kathiawar, Punjab, Cawnpore, C.P., Rajputana and/or Goods of Gujerat District.

Transaction.—The transaction shall be at least for 100 Candies= 500 Cwt. at price per Candy.

Terms (Dhara).—Bazaar Terms, that is to say, the buyer shall weigh (and take delivery) in the seller's gorown and whie weighing the bagging to count as goods (gross for nett).

Bagging.—To be the same as in Rail Delivery Terms.

Refraction.—Four per cent. more or less to be mutually paid for. If there be Groundnuts with shells up to 10 per cent. three-quarters shall count as goods and a quarter as dirt; more than 10% up to 20 per cent. five-eighths to go as goods and three-eighths as dirt, if more than 20 per cent the buyer has the option to reject the goods. Very small pieces of seeds (*kani*) up to 5 per cent. shall not go in dirt, for 6 to 15 per cent three-quarters shall count as goods, and a quarter as dirt. Goods containng more than 15 per cent. very small pieces of seeds (*kani*) will be liable to be rejected at the option of the buyers.

Quality.—Damaged seeds shall be valued at three-fourths of the contract price, slightly damaged seeds, reddish or yellowish, shall be valued at seven-eighths of the contract price.

IV. COTTON SEEDS

Waidas for Transactions.—At present there are three *Waidas*—January, May and September of the English Year. Besides, such other *Waidas* as the Association may fix upon.

Description of Goods.—Cotton seeds Berar, Khandesh, and Muglai District (Raichur and Yadgiri excepted). Goods of White quality will not be tenderable.

Transaction.—The transaction shall be at least for 100 candies= 500 cwts. at price per candy.

APPENDIX A

Terms.—Bazar Terms, that is to say, the buyer shall weigh over and (take delivery) in the seller's godown and while weighing the bagging to count as goods. (gross for nett.)

Bagging.—New Minimum weight should be $1\frac{3}{4}$ lbs. Goods shall not be tendered in old bags or bags of *Kantan* or *Chikan*.

Refraction.—Four per cent. more or less to be mutually paid for. All oil-seeds except Cotton-seed, Grain and Lint shall go as dirt. For the purpose of refraction lint from the cotton-seed shall be separated by hand. Up to 20 per cent., three-quarters of the dead seeds (empty seeds) shall count as goods and a quarter as dirt, and if there be dead seeds more than 20 per cent. in the goods, the buyer has the option to reject the goods.

Quality.—Damaged seeds to the extent of 10 per cent. shall pass; beyond that the seller shall give allowance as under:—

11 to 15 per cent. beyond 10 per cent. on every cent.		$1\frac{1}{2}$ pies per cwt.	
16 to 20	"	15 "	2 "
21 to 25	"	20 "	5 "

If there be damaged seeds over 25 per cent. the buyer has the option to reject the goods. Dharwar and Cambodia seeds to the extent of 5 per cent. free, that is, shall pass without allowance. For such seeds over 5 per cent an allowance at the rate of $\frac{1}{2}$ a pie per cwt., per each cent. shall have to be made.

V. RAPESEED

Waidas.—At present there is one *Waida*—May in English Year. Besides, such other *Waidas* as the Association may fix upon.

Description of Goods.—Rapeseed Yellow Gujerat.

Transaction.—The transaction shall be at least for 500 Cwts.=25 tons at price per Cwt.

Terms (Dhara).—Bazaar Terms, that is to say, the buyer shall weigh (and take delivery) in seller's godown and while weighing the bagging to count as goods (gross for nett).

Bagging.—To be the same as in Rail Delivery Terms.

Refraction.—Four per cent. more or less to be mutually paid for. If there be Jambo to the extent of 5 per cent. in the goods, half of it shall be taken as goods and the other half as dirt and beyond 5 per cent. all as dirt. Oil-seeds other than Jamboo and Sarsi (rapeseed) to the extent of 2 per cent. half to be taken as goods and half as dirt and beyond 2 per cent. all as dirt. Three-quarters as dead seeds (*Rairo*) to be counted as goods and a quarter as dirt; and half of fully (altogether white) dead seeds as goods and half as dirt. Dead seeds (*Rairo*) are those that are shrivelled and contain no oil. However, sound but flat seeds will not be taken as such (dead seeds). Dead seeds (*Rairo*) not to be rubbed and pressed in the palms of the hands.

Quality.—Damaged seeds shall be valued at half the contract price. Slightly damaged seeds to the extent of half a per cent. shall pass and the damaged seeds beyond half a per cent. to be valued at three-fourths of the contract price. Red and coloured seeds except yellow to the extent of $12\frac{1}{2}$ per cent. shall pass, but if there be more than $12\frac{1}{2}$ per cent. of such seeds the seller shall pay the difference according to the difference between the rates of Yellow Gujerat and Brown (ruling) on the day of weighment of the goods.

APPENDIX B.

FORM NO. 1.

ORIGINAL.
MESSRS. KILACHAND DEVCHAND & CO., LTD.

Contract No. _____

Purchase No. _____

Made at _____ in the
Month _____ era 192
equal to English date 192 _____

Bought of _____
hereinafter called sellers, by Messrs. KILACHAND DEVCHAND &
CO., LTD., hereinafter called buyers, the following _____
say _____

1. Quantity. Bags
bags of _____ lb. nett.

2. Quality. New Crop of _____ district,
fair average quality of the crop 192 _____ cleaned by
double sieves _____

3. Price. Rupees _____ Annas _____ and pies _____
viz., Rs. _____ per candy of _____ nett. _____ to be

4. Delivery. The _____
weighed over and the contract completed by the _____
next at _____ The acceptance by the _____

Buyers of a quantity less than that contracted for shall not under
any circumstances be taken to cancel the contract as to the
balance to be delivered.

5. Payment.—In silver or G.C. Notes at buyers' option.
All Other Conditions. As customary. Any addition or
alteration in any language other than English is void.

Sellers _____

Brokers _____

Buyers,
for **KILACHAND DEVCHAND & CO., LTD.**

DUPLICATE.

MESSRS. KILACHAND DEVCHAND & CO., LTD.

Contract No. _____

Purchase No. _____

Made at _____ in the
Month _____ era 192
equal to English date 192 _____

Bought of _____
hereinafter called sellers, by Messrs. KILACHAND DEVCHAND &
CO., LTD., hereinafter called buyers, the following _____
say _____

1. Quantity. Bags
bags of _____ lb. nett.

2. Quality. New Crop of _____ district,
fair average quality of the crop 192 _____ cleaned by
double sieves _____

3. Price. Rupees _____ Annas _____ and pies _____
viz., Rs. _____ per candy of _____ nett. _____ to be

4. Delivery. The _____
weighed over and the contract completed by the _____
next at _____ The acceptance by the _____

Buyers of a quantity less than that contracted for shall not under
any circumstances be taken to cancel the contract as to the
balance to be delivered.

5. Payment.—In silver or G.C. Notes at buyers' option.
All Other Conditions. As customary. Any addition or
alteration in any language other than English is void.

Sellers _____

Brokers _____

Buyers,
for **KILACHAND DEVCHAND & CO., LTD.**

THE OILSEED TRADE OF INDIA

FORM NO. 2.

Contract Note

FORM OF CONTRACT FOR SEEDS, WHEAT AND GRAIN ON DELIVERY TERMS.

_____ 19____
Con. No. _____
Bombay, Date _____

Broker _____

Messrs. _____

Bombay.

Sirs,

We have this day _____ sold to _____ you the following goods:—
bought from _____
Description of goods _____ tons 1 per cent. less or
bags more at Rs. _____ and one per cent. for charity. Fair average quality
of the season, net weight, to be given and taken delivery of Bombay
Railway Station or in the Buyers' godowns.

Bagging.—New Calcutta No. 2 Twill of Heavy "C" quality, *i.e.*,
bags weighing not less than $2\frac{1}{8}$ lbs. In Godown Delivery bagging to
be as in Rail Delivery terms.

Delivery _____ Seller's option. Buyer is
not bound to take delivery of less than 100 bags at a time.

The buyer has the option to refuse to accept Railway Receipts if
not given 9 days previous to the due date of the contract.

Each 50 tons shall be taken as separate contract if it be for more
than 50 tons.

Refraction. _____ per cent. reciprocal.

Payment.—Moneys and final account shall be paid in accordance
with the general rules and conditions.

Brokerage.—Sellers to pay $\frac{1}{4}$ per cent. but in wheat $\frac{1}{2}$ per cent.
The goods of this contract to be completed to Messrs. _____

The parties admit that this contract is subject to the General
Conditions and Rules arranged between the Grain Merchants' Associa-
tion and the buyers and which are fully known to them and shall be
taken as forming part of and included in the contract.

Sellers' Signature _____

Buyers' Signature _____

Broker's Signature _____

APPENDIX B

FORM NO. 3. CONTRACT FORM AND CONDITIONS OF BAZAR DHARA.

(Form of Contract on Bazar Terms.)

The contract as settled by the Grain Merchants' Association:—

Con. No. _____

Through Broker _____

Bombay, Date _____ 19 .

To

Sellers

Buyers

Bought from _____

Whereas we have this day sold to you _____
of the produce of Samvat year 198 _____ in words _____
for delivery to be completed during Samvat year 198 _____
_____ we give delivery _____ whenever Refraction therein _____ per cent.
_____ you take delivery _____
more or less to be mutually allowed. Wet or damaged goods shall not
be given or taken delivery of.

This contract is made in accordance with the Rules and Regulations of the Association and every party is bound to act accordingly.

Samvat, 198 _____ .

Buyers' Signature _____
Sellers' Signature _____

CONDITIONS OF THE CONTRACT

1. Each party admits that it is the intention of the parties at the time of entering the contract to deliver and take delivery of the goods.
2. The goods of this contract shall be weighed over by the buyer himself.
3. The basis of Refraction in Linseed, Rape seed, Gingelly and Rai Niger seed is 6% and in Poppy seed 8%—more or less to be mutually allowed.
4. New bagging in goods (gross for nett) but in cotton seeds bagging whatever it may be in goods (gross for nett).
5. The seller will not allow anything by way of discount,—Bamboo or samples, nor shall he allow 2 lbs., for each scale which was used to be given before; but shall allow the scale (containing the goods) to go down a little.
6. The seller will not give either money or grains to persons for refracting or writers of Chithis or to boys.
7. Brokerage shall be paid by buyers. The sellers will pay nothing on that account.
8. The buyers shall pay to the sellers purchase money at the contract price plus charity amount at 1 per cent. per cwt. or one-anna per candy.

THE OILSEED TRADE OF INDIA

FORM NO. 4.

(Delivery Order.)

THE SEEDS TRADERS' ASSOCIATION.

Bombay, Date _____ 19 .

No. _____

Name of the Muccadam _____

Address. _____

TO WIT. Please deliver on our behalf to (name) _____
according to the Rules and Regulations of the Seed Traders' Association
100 candies of (article) _____ at the rate

Signature. _____

The last due date for presenting

the Delivery ORDER _____

Note.—This Delivery Order is issued in accordance with the Rules
and Regulations of the Seeds Traders' Association.

Please deliver on our behalf the goods of this Delivery Order to

(Name) _____

Signature. _____

Date _____

FORM NO. 5.

(WAREHOUSE RECEIPT.)

(Face).

_____ Elevator Company.

No. _____ Winnipeg _____ 1938.

_____ Bushels _____ lbs.

The _____ Company, on this date
holds in store subject to the order of _____ (owner)
in its private Terminal Elevator situated at _____
Bushels of _____ which has been
weighed by a duly authorised weighmaster appointed under the Mani-
toba Grain Act. An equal quantity of the grain of the same kind will
be delivered to the said owner or his order on surrender of this receipt,
properly endorsed and on payment of all proper charges payable to
this Company in connection with the same.

_____ Elevator Co.

By _____

This receipt shall be registered by the Board of Grain Commissioner
as to quantity.

The inspected grade called for by this receipt is _____

_____ Elevator Company.

By _____

This receipt shall be registered as to grade by the Winnipeg Grain
Exchange pursuant to the laws of the exchange.

APPENDIX B

FORM NO. 6.

(*SURVEY REPORT.*)

At the request of Messrs. _____ Ltd., Buyers, and Seth _____ Seller, we have surveyed the following lots of Ground-nuts and find and award as follows:—

241 Bags Groundnuts Khandesh.—

Refraction	..	11.35%
Quality	..	Pass.
Bagging	..	Rs. 2 per 100 bags.

240 Bags Groundnuts Khandesh.—

Refraction	..	9-70%
Quality	..	Pass.
Bagging	..	Rs. 6 per 100 bags.

180 Bags Groundnuts Khandesh.—

Refraction	..	5.85%
Quality	..	Pass.
Bagging	..	Rs. 2 per 100 bags.

(Sd.) _____
(*Surveyor*).

Bombay,

Survey Fees Rs. 45 from each party.

(Sd.) _____
(*Surveyor*).

Form No. 7.

THE INCORPORATED OIL SEED ASSOCIATION

EXCHANGE CHAMBERS, ST. MARY AXE, LONDON, E.C.3.

CONTRACT FOR EAST INDIAN LINSEED TO UNITED KINGDOM PORT.

Copyright.

PURE BASIS—SOUND DELIVERED.

London 11th May, 1934.

1. About Tons say the following Pold Bombay Linseed, viz:—
 shipment from Bombay during Tons (of 2,240 lbs. each),
 by steamer or steamers direct or indirect with or without transshipment. Via Suez Canal.
 At
 per ton of 2,240 lbs. net, delivered sound, ex ship in including the usual 2½ lbs. B twill bags, and/or 2½ lbs.
 heavy C bags at Sellers' option at an allowance to the Buyers of one halfpenny per bag.

If Bombay Linseed be appropriated the seed shall be warranted to contain not more than 25% of small grains, any larger proportion to be allowed for at the rate of .05% for every 1% of such excess; the percentage of small grains to be ascertained by The Incorporated Oil Seed Association.
 For the purposes of this Contract the words steamer or steamers are intended to include any full powered primarily engine driven vessel.
 Each shipment to be regarded as a separate contract.
 Should any of the within mentioned quantity form part of a larger quantity of the same bulk or mark shipped on board the vessel by the same shipper in the same or a different period of shipment no separation or distinction shall be necessary.

Bill of Lading to be proof of date of shipment in the absence of evidence to the contrary.
 2. Declaration of Shipment.—Appropriation giving Steamer's name, date of Bill or Bills of Lading and approximate weight shall be made by Sellers in Europe (or their Agents) not later than 14 days from the date of the Bill of Lading. Any error proved to be due to a bona fide error in cable transmission may be rectified after receipt of documents. Appropriations from intermediate Sellers shall be accepted by Buyers although received by them after 14 days from date of Bill of Lading if from the 14th day such appropriations have been passed on without delay, and by wire if Buyers and Sellers do not reside in the same town. Further particulars with marks and number of bags shall be given within seven days of arrival of the documents in Europe. Should steamer report before appropriation and extra expenses be incurred, such expenses to be paid by the Sellers. Buyers shall not object to slight deviations in marks so long as the seed can be identified on arrival as the bona fide parcel intended to be delivered on the declaration. Any expenses incurred in consequence of such marks not being in accordance with the declaration shall be paid by the Sellers. When an appropriation is made of less quantity than 600 bags, an allowance of one shilling and sixpence per ton to be made to the Buyers on such appropriation, but if the net weight delivered exceed 45 tons no allowance to be given. Provisional Invoice to be computed upon net shipping weights. For the purposes of this Clause the official closing hours of business shall be 5 p.m. on week-days and 12 noon on Saturdays.

3. Payment.—Payment to be made in London, on vessel's reporting in by net cash, in exchange for shipping documents and/or delivery order (the latter to be countersigned by Banker, shipbroker, Captain or Mate if so required) and policy or policies of insurance effected with approved underwriters (and/or approved letter of insurance, interest at 5%, or at Bank of England rate if over 5% at 10 a.m. on day of payment to be allowed for unexpired portion of prompt of 21 days from vessel's reporting). The original Marine Insurance shall extend to goods in lighter during the ordinary course of transit from ocean steamer to destination within the precincts of the port for a period not exceeding 15 days. After the goods have passed into possession of the Buyers the Insurance documents shall be returned to the Sellers if and when required. Buyers to have the power of retaining a margin of 4% accounting for same on final settlement. Should documents be retired before vessel's reporting at port of discharge, interest to be allowed up to date of reporting at Bank of England rate on day of arrival. Interest at 5%, or at average Bank of England rate if over 5%, to be paid on any balance due on final invoice from date of prompt up to date of settlement. Notice to retire documents shall be given by Buyers before 11-30 a.m. on day of payment, except on Saturdays when the time shall be 10-30 a.m.

APPENDIX B

4. **Strikes, &c.**—Should the sellers be prevented from delivering the seed sold, or the Buyers from taking delivery, by reason of Riots, Strikes, or Lock-outs at the place named for delivery, the time for delivery and payment shall be extended until the operation of the causes preventing delivery has ceased. Buyers to pay interest at half Bank of England rate for said extension. A strike of the receiver's men only shall not exonerate him from any damage for which he may be liable if by the use of reasonable diligence he could have obtained other suitable labour, and in case of any delay by reason of the before-mentioned causes, no claim for damages for such delay shall be made by the receiver of the seed.

Should the shipment of the seed sold under this contract be prevented by reason of strikes, riots, or lock-outs at port of shipment, or on any railways feeding such port, shippers shall be entitled at the termination of such riot, strike, or lock-out, to an extension of time for shipment of as much time as was left for shipment prior to the outbreak of such riot, strike or lock-out.

In case of non-fulfilment under above conditions, the date of default shall be similarly dealt with.

Shipper shall give notice by cable within two days after the last day for shipment if he claims an extension of time of shipment.

5. **Discharge, Sampling and Analysis.**—Buyers to be allowed 24 hours from vessel's reporting to lodge documents and apply for delivery and the Company in whose dock the ship discharges shall be ordered by Sellers to weigh 5 sound and undamaged bags in every 100 as they rise from the ship and 2 in every 100 shall be emptied to ascertain the tare (said bags being weighed together). Buyers to give the sorting orders and failing their so doing the seed to be invoiced as sound, and sweepings to be for Buyers' account. Should the seed be sorted the damaged shall be taken by Buyers with allowances to be fixed in London at a valuation, or by arbitration. Slack bags to be weighed separately. Buyers to have the option of weighing the whole of the bags and the sweepings at their own expense. If in Hull, the Corporation of Sworn Meters and Weighers to be employed, or the Dock Company, at Sellers' option, and the certificate of those employed shall settle the weight to be invoiced. Buyers to have the option to be declared previous to ship's reporting, of taking the Linseed all weighed, ex quay or warehouse at Sellers' option, at landing weights, paying all current charges, prompt to be 7 days from Sellers' notice of being ready for delivery. The Dock Company—or if in Hull, the Corporation of Sworn Meters and Weighers, or the Dock Company, at Sellers' option—shall be instructed to take a fair Average Sample of the bulk out of the bags emptied for taring, and to seal and forward it to The Incorporated Oil Seed Association, who upon such sample shall determine, by analysis, the quantity and description of the substances other than Linseed contained therein. Should there be no Dock Company or Sworn Meters at port of discharge, samples (or sample) shall be taken and sealed jointly by Buyers' agents, and shall remain under their mutual control and to be deposited daily with the local Exchange Committee or similar Corporation, Harbour Master, or other independent party agreed upon (any charges incurred to be equally divided between Buyers and Sellers), and immediately after final discharge the whole set of samples shall be forwarded to The Incorporated Oil Seed Association. In the case of seed damaged by water samples of wet seed shall be drawn in sealed bottles to be tested by The Incorporated Oil Seed Association for moisture content by either party, duplicate samples of such wet seed shall be drawn in sealed bottles to be tested by The Incorporated Oil Seed Association to become and be their sole property for the information of the arbitrators. The samples (or sample) when delivered to The Incorporated Oil Seed Association to become and be their absolute property; the charges for sampling, average weighing, taring, sorting and analysing to be divided between Buyers and Sellers. Port Dues, if any, to be for Buyers' account.

6. **Basis of Admixture.**—The percentage of admixture having been ascertained, non-oleaginous substances shall be considered valueless, and oleaginous as worth half the Contract price of the Linseed. The basis shall be pure Linseed and the Buyer shall receive an allowance equal to the percentage of admixture so ascertained. If the percentage of pure Linseed is less than 92, there shall be an additional allowance to the Buyer equal to the excess of the calculated allowance over 4%.

7. **Notice of Arbitration.**—Notice of Arbitration with particulars of claim and name of Arbitrator, to be given by party claiming arbitration within 21 days from date of ship's reporting, the other party to name and instruct his Arbitrator within 7 days from receipt of such notice. Intermediate Buyers and Sellers' Arbitrators, or Umpire, agree to extend the time. Such arbitration to be held within 28 days from date of certificate of analysis, unless Buyers' and also if shipment or delivery be prevented by embargo, hostilities, prohibition of export or blockade, except that if owing to any cause beyond the control of the Sellers the voyage be terminated at some port other than the original destination, the parcel must be transhipped promptly at the Sellers' expense and accepted by Buyers on the original tender.

8. **Cancellation.**—This contract is to be void as regards any portion shipped that may not arrive by the ship or ships declared against this Contract and also if shipment or delivery be prevented by embargo, hostilities, prohibition of export or blockade, except that if owing to any cause beyond the control of the Sellers the voyage be terminated at some port other than the original destination, the parcel must be transhipped promptly at the Sellers' expense and accepted by Buyers on the original tender.

9. **Default.**—In default of fulfilment of contract by either party the other party at his discretion shall after giving notice in writing have the right to sell or purchase as the case may be against the defaulter who shall make good the loss if any on such sale or purchase on demand. If the party liable to pay shall be dissatisfied with the price of such sale or purchase or if the above right is not exercised the damages if any payable by the party in default shall be settled by arbitration and such damages shall be limited to the difference between contract price and market price unless the default consists of a failure by a seller to tender documents after an appropriation has been made in which case in assessing damages Arbitrators may in their absolute discretion have regard to any loss of profit or any liability incurred by Buyer under any sub-contract he may have entered into. If either party shall suspend payment of his

debts or commit an act of bankruptcy or being a Company shall have a Receiver appointed or go into liquidation voluntarily or otherwise (except a voluntary winding up of a solvent Company for the purpose of reconstruction) he shall be deemed to be in default and the other party shall after giving notice in writing as aforesaid and notwithstanding notice of any act of bankruptcy be entitled immediately to sell or purchase as the case may be against the party deemed to be in default and to recover against him or prove against his estate, whether wound up in bankruptcy or otherwise, any loss or shall account for any profit occasioned by or resulting from such sale or purchases.

10. **Circle.**—Where a seller repurchases from his buyer or from any subsequent buyer the same goods or part thereof, a circle shall be established as regards the particular goods so repurchased, and the provisions of the Default Clause shall not apply. Subject to the terms of the Cancellation Clause in the Contract if the goods are not declared, or having been declared documents are not delivered, the invoices based on 96% of the Contract quantity shall be settled between each buyer and each seller in the circle by a payment by each buyer to his seller of the excess of the seller's invoice amount over the lowest invoice amount in the circle. Such settlement to be made on the last day for tendering less 21 days' interest at 5% per annum. Should any party in the circle suspend payment or become bankrupt, or make a composition with creditors, or being a company shall have a Receiver appointed or go into liquidation voluntarily or otherwise (except a voluntary winding up of a solvent Company for the purpose of reconstruction), the invoice amount for the goods, calculated at the market price on the last day for tendering, shall be taken as the basis of settlement instead of the lowest invoice amount in the circle, such market price to be fixed if necessary by an arbitrator or arbitrators appointed by the Executive Committee of The Incorporated Oil Seed Association. As between the buyers and sellers in the circle the non-delivery of documents by each seller to his buyer shall not be considered a breach of Contract.

11. **Domicile, &c.**—Buyers and Sellers agree that, for the purpose of proceedings, either legal or by arbitration, this Contract shall be deemed to have been made in England and to be performed there, any correspondence in reference to the offer, the acceptance, the place of payment or otherwise notwithstanding, and the Courts of England or Arbitrators appointed in England, as the case may be, shall, except for the purpose of enforcing any Award made in pursuance of the Arbitration Clause thereof, have exclusive jurisdiction over all disputes which may arise under this Contract. Such disputes shall be settled according to the law of England, whatever the domicile, residence, or place of business of the parties to this Contract may be or become. Any party to this Contract residing or carrying on business in a foreign country shall, for the purpose of proceedings, be considered as ordinarily resident or carrying on business at the Consulate in London of the country or his residence or place of business. Any party to this Contract residing or carrying on business either in Scotland or Ireland, or any Colony or Dependency of the United Kingdom, shall, for the purpose of such proceedings, be considered as ordinarily resident or carrying on business at the Office of The Incorporated Oil Seed Association, and being a party residing or carrying on business in Scotland shall be held to have prorogated jurisdiction, as against himself, to the English Courts, and being a party residing or carrying on business in Ireland or Ireland or in any Colony or Dependency of the United Kingdom, by leaving the same at the Offices of The Incorporated Oil Seed Association, together with the posting, in a registered cover, of a copy of such proceedings to the address abroad, or in Scotland or Ireland, or in any Colony or Dependency of the United Kingdom, of such party, shall be deemed good service, any rule of law or equity to the contrary notwithstanding.

12. **Arbitration.**—All disputes from time to time arising out of this Contract, including any question of Law appearing in the proceedings, whether arising between the parties hereto, or between one of the parties hereto, and the Trustee in Bankruptcy of the other party, shall be referred to arbitration according to the Rules appended to this Contract, and this stipulation may be made a Rule of any of the divisions of His Majesty's High Court of Justice in Ireland on the application of either contracting party, for the purpose of enforcing an Award against a party residing or carrying on business in Ireland. Neither Buyers, Sellers, Trustees in Bankruptcy, nor any other person claiming under either of them, shall bring any action against the other of them in respect of any such dispute until such dispute has been settled by the Arbitrators, Umpire, or Committee or Board of Appeal, as the case may be, and it is expressly agreed that the obtaining an Award from either tribunal, as the case may be, shall be a condition precedent to the right of either contracting party to take any legal proceedings against the other in respect of any claim arising out of this Contract. All costs of or connected with the stating and argument of any Special Case for the opinion of the Court on any question of law arising in the course of the reference shall be borne and paid by the party requiring the same to be stated unless or except so far as otherwise determined by the Award to be made in the reference.

13. **Non-business Days.**—Should the time limited for doing any act or giving any notice expire on a Sunday, Public Holiday, or the Saturday before any Public Holiday which shall fall on a Monday, or on any day which The Incorporated Oil Seed Association shall declare to be a non-business day, the time so limited shall be extended until the first business day thereafter.

Signature

Director

RULES ARBITRATION.

I. Any dispute arising out of a contract embodying these rules shall be referred to arbitration in London, each party appointing one arbitrator, who shall be a member of the Association, or a partner in a member's firm, or a director of a company represented by a member, and such arbitrators shall

have the power to appoint an umpire, who shall be a member of the Association, or a partner in a member's firm, or a director of a company represented by a member, whose decision in case of disagreement is to be final.

II. The arbitration fees to be paid by the party against whom the decision is given, except when allowances are fixed by arbitration on country damaged or on seed damaged during the voyage; in such cases the fees to be equally divided, also in other cases, where, in the opinion of the referees they should be so treated. All arbitration allowances for inferior quality shall be stated in percentages and in multiples of $\frac{1}{4}\%$ (one quarter per cent.), minimum $\frac{1}{8}\%$ (one half per cent.)

III. In the event of one of the parties refusing to appoint an arbitrator or neglecting to do so for seven days after notice in writing of such an appointment by the other (such notice to be delivered personally or left at the usual place of business of the party so omitting to appoint), or in case the arbitrators shall not within seven days after their appointment agree to an award or appoint an umpire, or in case after the appointment of such arbitrators or umpire they or he or any of them shall die, or refuse to act, or become incapable of acting, and the party or parties with whom their or his appointment originally rested shall omit to appoint a substitute within three days after notice of such death or refusal, incapacity, then upon application by either of the disputing parties, and provided the applicant at the same time pays to the Secretary of The Incorporated Oil Seed Association the sum of £2 2s. 0d., the Executive Committee shall appoint an arbitrator or arbitrators, or umpire, who shall be members or a member of the Association, to fill the vacancy or vacancies so arising.

IV. All awards by Arbitrators or an Umpire shall be in writing on an official form issued by the Secretary of the Association and the arbitrators or umpire shall have power to award the costs of and connected with the reference, and may assess the same at a fixed sum if they or he shall think fit.

V. In case either party shall be dissatisfied with the award a right of appeal shall lie to the Committee of Appeal of The Incorporated Oil Seed Association provided it be claimed by notice given to the Secretary of the Association not later than 12 o'clock noon on the 14th day after the date of the award (Sundays and public holidays during that period not to count) and provided also that the Appellant at the same time pays to the Association as a fee for the Appeal the sums following, viz.—If the Appellant be a member or be a firm with one partner at least who is a member of the Association £21 5s. 0d., and in any other case £26 5s. 0d.

VI. The appeal shall be determined by a Board of Appeal consisting of four members of the Committee of Appeal of the Association in accordance with the Regulations of Association for the time being of The Incorporated Oil Seed Association, and the Rules of the Executive Committee for the time being in force. No member of the Committee of Appeal who has an interest in the matter in dispute or who has acted as arbitrator or umpire in the case and no member of the same firm or company to which either of the arbitrators or the umpire shall belong shall vote on the question of the appointment of members of the Board of Appeal or shall be appointed a member of the Board of Appeal.

VII. The parties to an arbitration or an appeal to the Committee of Appeal shall not be represented or appear by Counsel or Solicitor on the hearing of such arbitration or appeal unless in the sole discretion of the arbitrators, or umpire, as the case may be, or Board of Appeal, the case is of special importance or questions of law are likely to arise upon which the opinion of the High Court of Justice may be required.

VIII. The Board of Appeal shall confirm the Award appealed from unless not less than three of the members of the Board of Appeal decide to vary such Award. The Board of Appeal may award the payment of the costs and expenses of and incidental to the appeal but the appeal fee shall follow the award unless three of the members of the Board of Appeal shall direct otherwise. The award of the Board of Appeal whether confirming or varying the original award shall be signed by two members of the Board of Appeal and countersigned by the Secretary of the Association and when so signed shall be deemed to be the award of the Board of Appeal and of the Committee of Appeal and shall be final and conclusive in all cases.

IX. No award by arbitrators or an umpire shall be questioned or invalidated on the ground that either of the arbitrators or the umpire is or was not qualified to act as provided in Rules 1 and 3 unless objection to his acting is made in writing before the hearing of such arbitration is begun and no award of a Board of Appeal shall be questioned or invalidated on the ground of any irregularity in the election of the Board of Appeal or of any of its Members or on the ground that any Member of the Board of Appeal was not eligible to serve unless objection is made in writing and established to the satisfaction of the Board of Appeal before the hearing of the Appeal is begun.

X. Any notice may be delivered personally or left at the place where the party to whom it is to be delivered is carrying on or (by reason of the provisions of the contract) is to be considered to be carrying on business.

Certificates of Origin.—These goods are entitled at this date to free entry into or preferential duty in the United Kingdom. If the goods at time of shipment are entitled to free entry into or preferential duty in the United Kingdom the seller shall furnish a Certificate of Origin in the form valid at time of shipment, otherwise he shall be responsible for any duty or extra duty incurred by the Buyers through the non-production of such Certificate.

THE OILSEED TRADE OF INDIA

Form No. 8.
(*Freight Broker's Report*)
& SONS
FREIGHT BROKERS.

BOMBAY, 3rd August

PORTS.	Steamers and / or month of Ship-ment.	Seeds of 18 Cwts.	Seeds of 16 Cwts.	Oil cakes of 16 Cwts.	Cotton	PORTS.	Steamers and / or month of Ship-ment.	Seeds of 18 Cwts.	Seeds of 16 Cwts.	Oilcakes of 16 Cwts.	Cotton.
London	{ August September October Nov./March	16 15 16	Not quoting 19 18 19	19 19 20	19 19 20	Hamburg	{ August October Nov./March	14 16	Not quoting 17 19	17/6 19/6	20 20
Hull						Rotterdam Bremen ...					
Dunkirk	{ September October Nov./March	16 14 16	19 17 19	19 17/6 19/6	19 19 20	Genoa ... Naples ...	{ September October Nov./Dec.	11 13	14 16		21 21 21
Marselles	{ September Oct. Nov. March.	11 13 16	14 16 19	18 17/6 19/6	20 20 20	Trieste ... Venice ...	{ September Oct./Dec.	11	14		21 21
Manchester	{ September October Nov./March	14/6 14 16	17/6 17 19	18 17/6 19/6	20 20 20						
Glasgow	{ September Oct./Nov. Dec./March	14/6 14 16	17/6 17 19	18 17/6 19/6	20 20 20	Havre ...	{ September October Nov./March	17/6 16/6 13/6	20/6 19/6 20/6	20/6 20/6 21/6	20/6 20/6 21/6
Antwerp	{ September October Nov./March	13 14 16	16 17 19	16/6 17/6 19/6	20 20 20	Ghent ...	{ September October Nov./March	18 19 21	21 22 24	21/6 22/6 24/6	25 25 25
Barcelona	{ September October Nov./March	17/6 17 19	20/6 20 22	21 20/6 22/6	23 23 23	New York Philadelphia					

Remarks :—Market quiet.

APPENDIX B

FORM NO. 9.

No. _____

(Shipping Order)

BRITISH INDIA STEAM NAVIGATION COMPANY, LTD.

(Incorporated in England)

Bombay, _____ 193 .

TO THE COMMANDING OFFICER

Any First Class Steamers or Steamers. _____ (to arrive)

_____ Shipment.

Please RECEIVE on board from Messrs. _____

who hereby contract to ship for _____

(Via Port or Ports) the following cargo:—Poppy Excluded—Wheat excluded.

Cargo to be specified on demand and to be alongside on or before the Third day of notice, otherwise full freight or difference of freight on Market rate to be payable on demand as liquidated damages.

Rate of freight as above payable as per Bombay Chamber of Commerce tonnage scale or its equivalent in rate and tonnage and all other conditions (including usual lighterage and ice clauses) as per Company's Bill of Lading Form and including clauses on reverse.

Pro. MACKINNON MACKENZIE & CO.

Agents.

This order is granted on the following conditions:—

That this order is not transferable without permission, and is subject to arrival if engagement made while the vessel is not in port. Subject to a lien for freight and difference of freight.

No cargo calculated by its nature or smell either to injure or be a source of danger to other cargo will be accepted as lawful merchandise, and all classes of liquids, hides, bones, asafœtida, etc., are barred from shipment under this shipping order.

The cargo to be shipped either in Alexandra, Prince's, or Victoria Dock or in the stream as required by the ship and full freight to be paid on any quantity short shipped.

The steamer under this shipping order is not responsible for any loss or expense shippers may incur through Cargo being shut out, but is only liable to supply a shipping order for such shut out cargo in next available steamer.

Brokerage will only be paid if cargo is shipped or difference of freight and brokerage received.

PLEASE REFUSE ALL PACKAGES NOT PROPERLY MARKED, ADDRESSED, OR INSECURELY PACKED.

Cost of weighing the goods at Havre to be equally divided between the steamer and the consignees of the goods; each party paying half the cost of the operation notwithstanding any custom of the port to the contrary.

Ship to have the right of stacking on quay at consignees' risk and expense.

The Shipowners shall be at liberty to suspend their obligations under this contract if the imminence or existence of any War

THE OILSEED TRADE OF INDIA

(whether Great Britain is a belligerent or not) interferes in any way with the due performance by them of the said obligations or renders impracticable for them to fulfil the same.

"All claims at German ports for loss of or damage to cargo shall be paid in sterling; the price to be the certified market price in sterling at port of discharge on the day of steamer's arrival less all charges and brokerage that may be saved."

The Ship in addition to any liberties expressed or implied in the Bill of Lading shall have the liberty to comply with any orders or directions as to departure, arrival, routes, ports of call, stoppages or otherwise howsoever given by His Majesty's Government or any Department thereof or any person acting or purporting to act, with the authority of His Majesty or of His Majesty's Government or of any department thereof or by any Committee or person having under the Terms of the war, risks insurance on the ship the right to give such orders or directions and nothing done or not done by reason of any such orders or directions shall be deemed a deviation.

"The Shipowners shall be at liberty to cancel or suspend the performance of this Contract if the existing war, or in the event of the closing and/or suspension of traffic through the Suez Canal, renders it impracticable for them to fulfil their obligations under the contract or interferes with the performance of the same or in the event of the steamer being requisitioned after declaration.

The Shipowners have the liberty to change the route at any time or stage of the voyage, to keep steamer in port or to put into and remain at any port should circumstances in their opinion, or in the opinion of the master, render this advisable.

The usual deviation clause will be attached to the Bill of Lading."

Our option of cancelling if steamer declared for particular month unavailable or if Company unable to declare owing to war labour trouble force majeure or other circumstances outside Company's control.

All engagements made subject to Government intervention or consequences thereof either case or option to cancel. Company only liable to carry by own steamers but their option declare other steamers.

Freight payable at port of shipment or by approved Bankers Draft on London at sight on steamer's arrival at destination .

"The Company accepts no liability for shortage of or damage to contents of gunny and/or mat packed packages."

Declaration of ports of loading and discharging to be made on or before

Arbitration Clause

If any dispute shall arise between the parties hereto touching the construction of this Shipping Order or as to the liability of either party thereunder or as to the amount due by one party to the other, such dispute shall be referred to two Arbitrators who shall be Commercial men carrying on business and resident in Bombay, one Arbitrator to be appointed by each party. If the Arbitrators are unable to agree the matter shall be referred to an Umpire who shall be appointed by the Committee of the Bombay Chamber of Commerce. The decision of the two Arbitrators if they shall agree or of the Umpire as the case may be, shall be final and binding on both parties. This agreement to refer to arbitration shall be deemed to be a submission to arbitration under the Indian Arbitration Act 1899.

Form No. 10 Dalal No.
Shipping Bill for
 Ambalal Virjibhai } **Indian Produce**
 K. P. P. } **Foreign produce to be re-exported** *Signature*
 Bunder Port Bombay, Exporter's Name Original **FREE GOODS**
 Address

Name of Vessel.	Master or Agents.	Colours.	Port at which goods to be discharged
S. S.			

Packages.		Details of goods to be separately entered for each class or Description.						
Numbers and Description.	Mark and Numbers	Quantity.		Description.	Value.		Country of final Destination	Remarks
		Unit	Amount		Rate.	Amount		
					Rs.	a.	p.	
				</				

Entered. No. 193 Let Export I/We hereby declare the particulars given above to be true
Bombay 193

Assistant Collector of Customs. Signature of Exporter or his Authorised Agent

[illegible]

Assistant Collector of Customs.

Signature of Exporter or his Authorised Agent

[illegible]

Signature of Exporter or his Authorised Agent

Assistant Collector of Customs.

(Application to Export)

BOMBAY PORT TRUST

THE MANAGER BOMBAY PORT TRUST DOCKS.

Date-

Please receive payment of charges leviable under Act VI of 1879 on the undermentioned goods for shipment per S. S.—

to _____ as per attached Customs Shipping Bill No. _____ Dated _____

[illegible]

No receipt should be accepted as genuine except when stamped with port trust stamp

(I or We) _____ declare the contents of the
above to be truly stated

Signature _____
Address, _____

Issued by—

Form No. 14.

(Application to Export)

BOMBAY PORT TRUST

THE MANAGER BOMBAY PORT TRUST DOCKS.

Date-

Please receive payment of charges leviable under Act VI of 1879 on the undermentioned goods for shipment per S. S.-

to _____ as per attached Customs Shipping Bill No. _____ Dated _____

[illegible]

No receipt should be accepted as genuine except when stamped
with port trust stamp

(I or We) _____ declare the contents of the
above to be truly stated

Signature
Address,—

Issued by _____

APPENDIX B

FORM NO. 15.

(Mate's Receipt)

Asiatic Steam Navigation Co., Ltd.

NO. 1.

Calicut.

Voy: 105.

S.O. No. 2.

EDR. No.

EFR. No. 90 of 12, 11/10.

RECEIVED in good order and conditions on board the S.S. "Nurani" for Calcutta the undermentioned goods from Cooverji Ardeshir & Co.

Marks and Numbers	Quality and Description of goods.	Length		Breadth		Depth		Weight		
		Ft.	In.	Ft.	In.	Ft.	In.	Tons.	Cwt.	qrs.
CA & Co.	18 bundles of Yarn							1	7	
Calcutta 1/18	(Eighteen only)									

Board alongside at _____ on _____ discharged at _____ on _____. This receipt is to be exchanged for the Company's Bill of Lading and in the meantime the goods for which this receipt is issued are held, and will be carried by the company, subject to the conditions set forth on the back hereof.

A. THOMAS,

Clerk.

APPENDIX B

FORM NO. 16

(Bill of Lading)

No.....

PARTICULARS DECLARED BY SHIPPER.			
Leading Marks.	Distinctive Numbers.	Number of Packages or pieces or Quantity or weight	Description.
<i>Number of Packages (in words)</i> _____			

MEASUREMENT AND WEIGHT.						
Tons.	Feet.	Inches.	Tons.	Cwt.	Qrs.	Lbs.

Freight @.....(RATE).....per ton.....(AMOUNT).....Total Rs.....
Dated at.....(LOADING PORT).....this.....day of.....

THE OILSEED TRADE OF INDIA

(Bill of Lading—contd.)

"All the terms, provisions and conditions of the Indian Carriage of Goods by Sea Act, 1925, and the Schedule thereto are to apply to the contract contained in this Bill of Lading, and the Company is to be entitled to the benefit of all privileges, rights and immunities contained in such Act, and the Schedule thereto as if the same were herein specifically set out. If anything herein contained be inconsistent with the said provisions it shall to the extent of such inconsistency, and no further be null and void. It is hereby expressly further agreed in pursuance of the provisions of Article 7 of the Schedule to the said Act, that the carriers' liability, prior to the loading on, and subsequent to the discharge from the ship, shall be governed by the conditions and exceptions of this Bill of Lading."

BRITISH INDIA STEAM NAVIGATION CO., LTD.

(Incorporated in England.)

Shippers are requested to note particularly the terms and conditions of this Bill of Lading with reference to the validity of their Insurance upon the Goods.

N.B.—The Goods are shipped and this Bill of Lading granted subject to the following express conditions:—

Any claim for short delivery of or damage done to Goods, and all other claims whatsoever, to be presented at Company's option at Port of Discharge, or at Ports of Calcutta or Bombay and at no other Port.

No claim for damage will be admitted unless notified in writing before the Goods are removed. No claim for short delivery, short landing, non-delivery, total loss, or any other claim whatsoever, in respect to the within mentioned goods will be entertained unless made in writing within one month from the date of arrival of the vessel.

SHIPPED, in good order and condition
by.....(Shipper).....
on Board the Ship.....(Vessel).....lying in the
Port of.....(Loading Port).....for carriage to.....(Destination).....
but with liberty either before or after proceeding towards that Port to proceed to, and stay at any
ports or places whatsoever (although in a contrary direction to, or out of, or beyond, the ordinary or
usual route to the said Port of Discharge) once or oftener, in any order, backwards, or forwards, for
loading or discharging cargo or passengers, or for any purpose whatsoever, and all such ports, places,
and sailings, shall be deemed included within the intended voyage: also with liberty to tow
and assist Vessels in all situations and to deviate for the purpose of saving life or property also to sail
with or without pilots.....(No. of packages).....
being marked and numbered as per margin. The said goods to be carried and delivered, subject
to the terms and conditions of this Bill of Lading in the like good order and condition at the Port of
(Destination)
unto.....(Consignee).....or his or their assigns.

The Company shall not be liable for loss, damage or delay directly or indirectly resulting from any of the following causes or perils, howsoever occasioned; viz., Act of God; King's enemies; piracy; robbery; theft or pilferage with or without violence on board or elsewhere and whether by persons in the service of the Company or not; arrests and restraints of princes, rulers, or people; riots and civil commotions; strikes, lockouts or other labour disturbances; barratry; jettison; collision; fire; Petroleum vapour; breakage or leakage; vermin; sweat; rust; temperature of holds; climate; rain; injurious effect of other goods, whether by contact or otherwise howsoever; perils, dangers and accidents of the sea, rivers or navigation; unseaworthiness, unfitness, or defect of any kind in hull, machinery, tackle, equipment, Engines or appurtenances at the commencement or any stage of the voyage (provided reasonable means have been taken by the Company at the port of shipment to prevent same); any act, neglect or default whatsoever of pilot, master, officers, mariners, engineers, stevedores or other servants or agents whatsoever of the Company on board or elsewhere, in the management, navigation or otherwise of the vessel or of any other vessel belonging to the Company, or in the loading, stowing, carriage, unloading or delivery of the cargo.

The Company is to be at liberty to carry the goods to their Port of Destination by the above, or any other steamer or steamers, ship or ships, Motor vessel or vessels either belonging to the Company or to other persons, and to tranship or land, and store the goods either on shore or afloat and to re-ship and forward same at the Company's expense but at shipper's or consignee's risk; and at the like risk, to deviate as above-mentioned.

In all cases and under all circumstances the Company's liability shall absolutely cease when the goods are free of the vessel's tackle and thereupon the goods shall be at the risk for all purposes and in every respect of the Shipper or Consignee.

Freight at the rate of.....(Rate).....Payable in.....(Loading or Discharging Port by the Shippers as per margin vessel lost or not lost.

IN WITNESS whereof the Commander or Agents of the said vessel have affirmed to....(No. of Copies)....Bills of Lading, all of this tenor and date; one of which Bills of Lading being accomplished the others to stand void.

General average to be adjusted according to York-Antwerp Rules, 1924.

This Bill of Lading is issued subject to the following further conditions:—

Weight, contents and value when shipped unknown. The Company is not to be responsible for any loss, damage or delay, whatsoever, directly or indirectly resulting from insufficiency of the address or packing, internal or external: nor for condition or contents of re-shipped or re-exported Goods.

The Company reserves the right of charging freight by weight, measurement or value, and of re-measuring or re-weighing the Goods and charging freight accordingly before delivery. Freight on salt, saltpetre, dates, fruit and perishable goods is to be paid on the weight shipped, and no allowance will be made for wastage, shrinkage, or dryage on the voyage.

The Company does not guarantee room at ports of transshipment and is not to be responsible for any detention or delay there or at any other stage of the voyage howsoever caused.

APPENDIX B

(Bill of Lading—contd.)

Packages weighing more than 3 cwt. (excepting bales and boxes of manufactured Goods) are only carried at advanced rates of freight and by special agreement.

The Company shall have a lien for freight unpaid on these Goods, or upon any portion of the Goods covered by the Shipping Order or Advice Note granted in respect thereof, which may not have been shipped, and for any charges herein stipulated to be borne, or customarily borne, by the Shipper or Consignee of the Goods.

Should all or any part of the within Goods not be found, or if from bad weather or other cause the Goods cannot be landed during the Vessel's stay at Port of Destination, the Company reserves the right to convey same to any Port before the final or to the final Port of the voyage to be returned thence at the Company's expense, but at the Shipper's or Consignee's risk; and should necessity arise for detaining and storing the Goods, it shall also be done at the Company's expense and the Shipper's or Consignee's risk; and the Company shall not be answerable for the result of any delay or risk so occasioned or for loss of Market.

The Company will not be accountable for Gold, Silver, Bullion, Specie, Jewellery, Precious Stones, Precious Metals, Plated Ware, Documents, Works of Art, Watches, Silks or other precious or valuable articles, in any respect, or for Goods of any description whatever the value of which is more than one thousand rupees per freight ton, nor for goods of which the value exceeds five hundred rupees for any one package, unless the value thereof shall have been declared in writing prior to shipment, and a special written Shipping Order or Advice Note granted for same which must be presented to the Commander at time of shipment and the Bill of Lading signed with the nature and value of the goods appearing thereon and extra freight in respect of same agreed upon and paid. A wrong description of Contents or false declaration of value shall release the Company from all responsibility in case of loss, seizure, or detention, and the Goods shall be charged double freight on the real value, which freight shall be paid previous to delivery. The only condition on which Glass, China, Earthenware, Iron castings, or other fragile Goods of a like character will be carried is that the Company is free from liability for breakage however caused. If medicinal fluids or any other Goods of an explosive, inflammable, damaging or dangerous nature are shipped without being previously declared and arranged for, they are liable upon discovery to be thrown overboard, and the loss will fall upon the Shipper or Consignee of such fluids or Goods. The Shipper or Consignee will not only be liable to the penalties imposed by Statute but also for all damages sustained in consequence of the shipment of such fluids or Goods.

The Goods are to be distinctly marked with the marks, numbers and Port of Destination, or the Company is not to be responsible for detention or wrong delivery.

Bills of Lading must be presented and delivered up cancelled before delivery of Goods will be granted.

The Company is to have the option of delivering these Goods, or any part thereof, into receiving Ship, or boat or craft, or landing them at the risk and expense of the Shipper or Consignee as per scale of charges to be seen at the Agents' Offices, and is also to be at liberty until delivery to store the Goods or any part thereof in receiving Ship, godown, or upon any wharf, the usual charges thereof being payable by the Shipper or Consignee. The Company shall have a lien on all or any part of the Goods against expenses incurred on the whole or any part of the shipment. Fire Insurance will be covered by the Company's Agents on application.

Gold, Silver, Bullion, Specie, Jewellery, Precious Stones, Precious Metals, Plated Ware, Documents, Works of Art, Watches, Silks or other Precious or valuable articles will not be landed by the Company. They will only be delivered on presentation of Bills of Lading on board, and will be carried on, or stored, at risk and expense of Shipper or Consignee, if delivery is not taken during the vessel's stay in Port.

Notwithstanding anything herein contained to the contrary in the event of restrictions of Quarantine, Prohibition, Sanitary or Customs or Labour Regulations, Lockouts or Strikes, Blockade or Interdict at the Port of Discharge, war or disturbance or other like cause preventing or threatening to prevent the ordinary discharge of the Goods or any portion thereof, at the Port of Destination, such Goods or any portion thereof may at the vessel's option either be put into other vessels or be retained on board and landed and warehoused or otherwise disposed of as circumstances may admit wheresoever most convenient to the vessel, and re-shipped thence to destination as soon as conveniently may be after such restrictions as aforesaid have been removed or be returned to Port of Shipment, and all expenses whatsoever incurred in such landing, warehousing, transshipment, over carriage or return carriage or otherwise shall be borne by the Shipper or Consignee the Company having a lien on the Goods therefor.

The Company shall not be responsible for loss or damage of any kind which may result directly or indirectly from the above causes or any of them, and the Goods shall throughout be at the Shipper's or Consignee's risk.

Delivery by the Company of packages externally in good condition as received shall be conclusive evidence of delivery of full weight and contents.

For Captain.

For Agents.

WAR RISKS

When and so long as a state of war exists and/or so long as any control over the use or movements of the vessel is exercised by any Government or other Authorities, and/or the insulated or other space on this vessel is requisitioned or controlled, the Carrier and/or his Agents and/or the Master may (if in his or their uncontrolled discretion he or they think it advisable) at any time before or after the commencement of the voyage alter or vary or depart from the proposed or advertised or agreed or customary route, and/or delay or detain the vessel at or off any port or place and/or tranship the cargo at any port or ports, place or places without being liable for any loss or damage whatsoever directly or indirectly sustained by the Owner of the goods. The ship in addition to any liberties expressed or implied herein, shall have the liberty to comply with any orders or directions as to departure, arrival, routes, ports of call, stoppages, transshipment, discharge or destination, or otherwise howsoever given by any Government or any department thereof, or by any committee or person having, under the terms of the War Risks' Insurance on the ship the right to give such orders or directions, and if by reason of and in compliance with any such orders or directions anything is done or is not done, the same shall not be deemed a deviation. The vessel is free to carry contraband explosives, munitions or warlike stores, and may sail armed or unarmed.

THE OILSEED TRADE OF INDIA

FORM NO. 17.

(Certificate of Origin)

IMPERIAL PREFERENCE-CERTIFICATE OF ORIGIN D

No. 119 (Sale)

For goods grown or produced in the British Empire and consigned therefrom to Great Britain or Northern Ireland for admission at the preferential rates of duty, e.g.,

Chicory.	Silk—cocoons, waste and raw silk.
Cocoa (other than preparations).	Spirits.
Coffee.	Sugar (which has not passed through a refinery).
Dried Fruit.	Tobacco—unmanufactured.
Hops (other than preparations).	Wine.

Note.—This Certificate must be given personally by the proprietor, or by a partner or principal official, of the firm or Company concerned. A certificate given by a Company or "on behalf of," "per pro," "per," "for," etc., a person, firm, or Company will not be accepted.

I _____ Proprietor
 _____ *Partner of _____
 _____ Principal Official

grower
 the *producer of the goods designated below hereby certify:
 supplier

(1) that I have the means of knowing and am duly authorised to
 grower
 make and sign this certificate on behalf of the said *producer;
 supplier

(2) that the merchandise designated below is of _____
 *growth
 (country of origin) produce;

(3) †that this merchandise is to be
 shipped to _____ (port of ultimate destination)
 via _____
 from _____ (port of shipment)
 consigned to _____ (name and address of consignee)

Number and Description of Packages	Marks and Numbers	Weight or Quantity	Total Invoiced Value	Contents	Name of Grower or Producer

 Signature.
 Dated at _____ this _____ day of _____ 19 .

*Delete as necessary.

†When the Signatory to the main certificate cannot give the particulars at (3) the supplementary certificate below must be completed by the exporter of the goods.

APPENDIX B

SUPPLEMENTARY CERTIFICATE BY THE EXPORTER

Note.—This Certificate is only required when (3) above is not completed. Where required it must be given *personally* by the proprietor, or by a partner or principal official, of the firm or Company exporting the goods. A certificate given by a Company or “on behalf of,” “per pro,” “per,” “for,” etc., a person, firm, or Company will not be accepted.

Proprietor

I _____ *Partner of— _____

Principal Official

the exporter of the merchandise specified in the foregoing certificate hereby certify:

(1) that I have the means of knowing and am duly authorised to make and sign this certificate on behalf of the said exporter; contract or interfeers with the performance of the same or in the

(2) that the merchandise designated above is of _____

(country of origin) produce;
*growth

shipped to _____ (port of ultimate destination)

via _____

from _____ (port of shipment)

consigned to _____ (name and address of consignee)

_____ Signature.

Dated at _____ this _____ day of _____ 19 .

*Delete as necessary.

THE OILSEED TRADE OF INDIA

FORM NO. 18.

(Bill of Exchange)

No.....

EXCHANGE for £..... BOMBAY.....19 .

_____after Sight of this FIRST of Exchange,

(Second of the same tenor and date being unpaid) Pay to the order

of_____

the sum of_____

_____for value received against_____

_____shipped per_____

TO_____

.....

(Drawer)

No.....

EXCHANGE for £..... BOMBAY.....19 .

_____after Sight of this SECOND of Exchange

(First of the same tenor and date being unpaid) Pay to the order

of_____

the sum of_____

_____for value received against_____

_____shipped per_____

TO_____

.....

(Drawer)

APPENDIX B

FORM NO. 19.

(Letter of Credit)

____ Bank, Ltd.
Bombay_____.

Dear Sirs:—

We have received the following_____ advice from_____

“An irrevocable credit has been issued by_____
_____ drafts to be drawn for_____ invoice cost
on_____, at_____ sight
in favour of_____
for account of_____
up to the aggregate amount of_____

_____ Drafts must be accompanied by invoice, consulate
certificate, insurance policy, and full set bills of lading as follows:—
Duplicate invoice together with consulate certificate and negotiable
copy of bill of lading (2 if possible) must be sent direct by negotiating
Bank to the bank issuing the credit; a certificate of such despatch of
documents together with invoice and the remaining documents must
accompany draft. Bill of Lading freight_____

must be made out to_____

Invoice must describe shipment as purporting to cover shipment of

from_____ to_____

Bill of Lading must be dated not later than_____ and drafts
drawn hereunder must be negotiated not later than_____

Credit expires on_____ Advise beneficiaries by_____

Special Remarks_____

Drafts to be marked “Drawn under_____

_____ Credit No._____ as per_____

This letter should accompany all drafts presented for negotiation
under this Credit in order that all amounts negotiated may be endors-
ed on the reverse side hereof.

Yours very truly,

____ Bank, Ltd.

____, Manager.

____, Accountant.

THE OILSEED TRADE OF INDIA

FORM NO 20.

(Advance against Shipment Under Lien.)

To

The Manager,

Dear Sir,

I|We have purchased the following goods.....
for price or sum of Rs.....To obtain posses-
sion of the said goods, I|we have to pay a sum of Rs.....
.....and for this purpose I|we desire to obtain from you
an overdraft to the extent of Rs.....

In consideration of your allowing me|us this overdraft I|we agree
to apply the amount of the said overdraft only in payment for the
said goods and that the said goods shall be deemed to belong to your
Bank from the time of payment of the price thereof.

I|We shall take possession of the said goods and hold the same
as Agent of and in Trust for your Bank and deal with the same as
the property of your Bank. The said goods are not subject to any
lien or encumbrance in favour of any person whomsoever.

I|We intend to ship the said goods per S.S.....
bound for.....and due here on or about the
.....day of.....19 .

In consideration of your allowing the said overdraft I|we further
agree to ship the said goods as Agent of and in Trust for and on
account of your Bank handing you duly endorsed Bills of Lading for
the same before the.....days of.....19 , and
agree to insure the said goods under my|our Policy with the
.....Insurance Co. for Rs.....

Yours faithfully,

.....

APPENDIX C.

MODEL BYE-LAWS OF A CO-OPERATIVE LOAN & SALE SOCIETY

By-Laws of the _____ Co-operative Loan & Sale Society

Limited, No.

Name, Constitution and Address. The _____
Co-operative Loan and Sale Society, Limited, No. _____ is registered
as a Co-operative Society under Act II of 1912 (India). Its address
shall be _____ village _____ Post, in the
taluka of _____ in the _____ district. Its operations
shall be confined to _____

Note.—The _____ Loan and Sale
Society shall be referred to in these bye-laws as the
“Society” and a member society as an “Affiliated Society.”

2. Objects.—The objects of the Society are:—

- (1) To encourage self-help, thrift and co-operation among members;
- (2) to advance loans to members on the security of their produce;
- (3) to arrange for the sale of produce of members to the best advantage;
- (4) to rent or own godowns to facilitate the grant of loans to members and the sale of their produce;
- (5) to act as the agent of those members which are affiliated societies in the matter of disbursing and recovering loans sanctioned to individual members of such societies; and
- (6) to act as the agent of those members which are affiliated societies in the matter of receiving for safe custody in its godowns or elsewhere the produce pledged to such societies by their individual members.

It shall be competent for the Society to borrow money and do such other things as are incidental or conducive to the attainment of the above objects.

3. **Membership.** The liability of the members of the Society shall be limited to the share capital subscribed by them.

4. The capital of the Society shall for the present be Rs. _____ made up of shares of Rs. _____ each. The value of each share shall be paid in one lump sum on allotment.

5. Any person over 18 years of age who is competent to contract residing within the limits referred to in the third sentence of bye-law 1 and also any Agricultural Co-operative Credit Society with unlimited liability situate within the area of operations, shall be eligible for admission as a member, but no person or co-operative society can claim admission as a matter of right.

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6. Applications for admission as members and for allotment of shares, shall be made to the Secretary in the form, if any, prescribed for the Society for the purpose. Every such application shall be disposed of by the Board of Directors who shall have power to grant admission or to refuse it without assigning reasons.

7. Every member shall take at least one share, but no member shall take more than.....shares. Every member shall pay an entrance fee of..... annas for each share taken by him at the time of taking the share provided that the total payment of entrance fees by any one member for all the shares held by him shall not exceed Rs.....

8. No member shall be permitted to withdraw any of the shares held by him in the Society within.....years after the date when such shares were taken by him. But a member may withdraw shares with the consent of the Board of Directors after such period provided first, that he has given at least six months' notice of withdrawal, secondly, that the total amount of share capital that is permitted to be withdrawn in any one year does not exceed 10% of the aggregate paid-up share capital of the Society as it was on June 30th preceding, and thirdly, that there are no debts due from him to the Society. When a member withdraws shares under this bye-law, he shall be paid back the share capital actually paid by him with the dividend declared, if any.

9. Should an individual member cease to be eligible for membership either on account of the removal of his residence from the limits prescribed in by-law 1 or for any other cause, the Society shall remove his name from the list of members and shall pay back within a reasonable period to such member the share capital actually paid by him with the dividend declared, if any, after deducting therefrom the money, if any, due from him to the Society.

10. (1) If an individual member dies, his membership shall *ipso facto* cease.

(2) (a) Every individual member of the society may nominate any person to succeed, in the event of his death, to his share or interest in the society. Such nomination shall, in the event of his death, be given effect to by the Society provided—

(i) the nomination was signed by the deceased in the presence of at least two witnesses attesting the same;

(ii) the nomination has been registered in the books of the Society kept for the purpose; and

(iii) the person nominated shall have been admitted by the Board of Directors as a member of the Society under bye-law 6.

(b) In the event of there being no person nominated by the deceased and entitled to succeed to his share or interest in the Society, the heir or legal representative of the deceased, or any person nominated by such heir or legal representative within one month of the death of the deceased member, shall be entitled to succeed thereto provided such heir or legal representative or his nominee shall have been admitted by the Board of Directors as a member of the Society under bye-law 6.

(c) In the event of there being no person entitled to succeed under clause (a) or (b) of this bye-law to the share or interest of a

APPENDIX C

deceased member of the Society, the Society shall pay to the nominee of the deceased or to his heir or legal representative, as the case may be, a sum representing the deceased member's share or interest at the time of his death ascertained in accordance with the bye-laws of the Society.

11. An affiliated Society shall, on liquidation, cease to be a member of the Society and the share capital held by it will be returned to the liquidator after deducting therefrom the debts, if any, due by the affiliated society.

12. (1) A past member shall be liable as provided in bye-law 3, for the debts due by the Society as they existed on the date when he ceased to be a member, for a period of two years from such date.

(2) The estate of a deceased member shall be liable, as provided in bye-law 3, for the debts due by the Society as they existed on the date of his decease, for a period of one year after his decease.

13. No member shall be permitted to transfer his share or shares or create a charge in respect of the same in favour of another member or person except with the previous sanction of the Board of Directors.

14. With the sanction of the Board of Directors a member may at any time increase the number of shares held by him so as not to exceed the limit of.....shares laid down in bye-law 7.

15. **Borrowings.**—It shall be competent to the Board of Directors to receive deposits and to borrow funds either from members or from persons other than members or from institutions registered under the Indian Companies Act or under the Co-operative Societies Act or from the Imperial Bank of India provided firstly that the aggregate indebtedness of the Society whether to members or to non-members shall not exceed..... times the sum of paid-up share capital and reserve fund and secondly that the rate of interest payable shall not exceed.....

- (a) per cent. per annum on deposits and other borrowings from non-members;
- (b)per cent. per annum on deposits and other borrowings from members; and
- (c) per cent, per annum on borrowings from theCentral Bank. The previous sanction of the Registrar of Co-operative Societies shall be obtained for borrowing money from societies registered under the Indian Companies Act or from the Imperial Bank of India.

16. **Management.**—Subject to such resolutions as the general body may from time to time pass, the executive management of the affairs of the Society shall vest in a Board of Directors. The Board of Directors shall consist of not more than.....members, of whom at least.....shall be representatives of affiliated societies. A director who is a representative of an affiliated society shall cease to serve on the Board if the society concerned withdraws its delegation or when he ceases to be a member of his society.

17. The members of the Board of Directors shall be elected by the General Body for a period of one year from among the members. Members of the Board of Directors shall continue in office after the

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expiry of their term of office, until by election another Board is constituted. A retiring member of the Board of Directors shall be eligible for re-election. After the Board of Directors is elected by the general body, they shall elect from among themselves a President, a Secretary and an Assistant Secretary. Interim vacancies of the Board of Directors may be filled up by the remaining members of the Board by co-option for the unexpired portion of the period except in cases contemplated in by-law 21. Any member or members of the Board of Directors may at any time be removed by a resolution of the general body.

18. The Board of Directors shall meet once a fortnight or oftener if necessary, to conduct the affairs of the Society. No decision of the Board of Directors shall be valid unless it is assented to by at leastmembers. All questions before the Board of Directors shall be decided by a majority of votes. Should there be an equality of votes, the president or other presiding member shall have a casting vote. No member of the Board of Directors shall be present at a meeting of the Board when any matter in which he is personally interested is being discussed. In case of urgency, where there may not be sufficient time to convene a meeting of the Board of Directors and in all cases in which such a procedure may, from time to time, be prescribed by the Board of Directors, the Secretary may obtain the orders of the Board of Directors by circulation of papers among the members present at the headquarters of the Society. Such decisions arrived at by circulation shall be placed before the next meeting of the Board of Directors for their ratification/information. Should a difference of opinion arise in course of such circulation, the matter shall not be decided by circulation but shall be placed before a meeting of the Board of Directors.

19. Should a member of the Board of Directors absent himself from four consecutive meetings of the Board, he shall cease to be a member of the Board of Directors but may be reinstated by the Board of Directors.

20. Subject to such resolutions as the Board of Directors may from time to time pass, the several officers of the Society shall have the powers mentioned below:—

- (a) the President shall have a general control over all the affairs of the Society and shall ex-officio be the Treasurer and shall have the custody of all the properties of the Society. He shall also have power to appoint the members of the establishment as well as to fine, suspend or dismiss them subject in the last two cases to the approval of the Board of Directors;
- (b) the Secretary shall be responsible for the executive administration of the Society subject to the control of the President;
- (c) the Secretary/President shall be the officer to sue or be sued on behalf of the Society and all bonds in favour of the Society shall be in the name of the Secretary/President;
- (d) the Assistant Secretary shall help the Secretary; should the Secretary or the Assistant Secretary require relief from work, it shall be competent to the President to grant such relief, making suitable arrangements for the conduct

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of work by one or more of the members of the Board of Directors.

21. Any member of the Board of Directors who commits default in respect of a loan taken by him from the Society shall *ipso facto* be considered disqualified to continue as an office-bearer. But if the default has been for a period of three months or less, the defaulter may be re-instated by the general body on his showing good cause for the default. In no circumstance shall a defaulter continue to hold office as a member of the Board of Directors if his default has continued for more than three months.

22. Receipts shall be issued for all moneys paid to the Society. For moneys paid by members the receipt shall be signed by the President or the Secretary or the Assistant Secretary whoever is selected by the Board of Directors to discharge this function. In the case of borrowings from non-members or from other societies, the receipt or bond shall be executed by at least.....members of the Board of Directors of whom the Secretary or the President shall be one.

23. It shall be the duty of the Board of Directors to maintain such accounts and registers as are prescribed by Rule VII of the rules under the Act and by the Registrar from time to time, to place before a general body meeting of the members of the Registrar's notes of audit or inspection within one month from the date of receipt, to correspond with the Registrar and to do all other business relating to the Society.

24. The Board of Directors shall have power to prescribe from time to time the scale of office establishment and to incur such expenditure as may be necessary for the management of the Society with reference to the scale and within the budget allotment sanctioned by the general body for each year. It shall be competent to the Secretary to incur petty contingent expenditure subject to a maximum of Re. 1 for any item.

25. The Board of Directors shall be competent to fix the amount and nature of the security, if any, to be given by the office establishment.

26. It shall be competent to the Board of Directors to frame subsidiary by-laws for the conduct of the business of the Society consistent with the Act, the rules under the Act and these bye-laws. Such subsidiary by-laws shall be entered in the minute book of the Society and they shall be reported to the Registrar of Co-operative Societies for approval.

27. The services of the members of the Board of Directors shall be gratuitous except as provided for in by-law 50.

28. **Agency.**—It shall be competent to the Board of Directors as the agent of its affiliated societies to receive money on the authority of such societies from the..... bank and to disburse such moneys to the members of such societies under due authority and to receive and keep in its custody the produce pledged by such individuals to such societies for loans.

29. **Godowns.**—It shall be the duty of the Board of Directors to arrange for the safe custody of the produce either in the godowns of the Society or in suitable places. For this purpose, they must build, buy or hire one or more godowns for the purpose of keeping the pro-

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duce pledged to the Society for loans given to individual members of the Society or lodged with the Society for safe custody by individual members of the affiliated societies, and charge a reasonable rent on a scale to be fixed by them from time to time for the use made of these godowns by individual members of the Society or by members of affiliated societies or by others. They shall also arrange for the insurance of the produce pledged.

30. Sale of Produce.—The Board of Directors may arrange for the sale of produce of members pledged or deposited with the Society. In arranging for the sale, they shall act only as the Agent of the members concerned and shall not do the business as owner on behalf of the Society. Any loss arising out of the transactions shall be borne by the members concerned and not by the Society. When the Board of Directors act as Agent it should be under the written authority of the members concerned. The Board shall not enter into any forward contracts with dealers without the express permission of the member or members concerned. No produce shall be removed from the godowns until all loans, interest, fees or charges due thereon shall first have been paid in full to the Society or to its affiliated societies.

31. All transactions by way of sales on behalf of the members shall be on the ready money system.

32. The Board of Directors may charge a reasonable commission on sales arranged by them.

33. At the end of each quarter stock shall be taken of all the produce in the custody of the Society after giving due notice to the member concerned. It shall be competent to the Board of Directors to fix the scale of depreciation to be allowed in the case of produce deposited in the godown of the Society and such scale shall be binding upon the members of the society.

34. General Body.—The ultimate authority in all matters relating to the administration of the Society shall be the general body of the members who shall meet from time to time and at least once a year to conduct the work of the Society. The general body of the Society shall consist of individual members and representatives of affiliated societies. Each affiliated society shall elect a delegate from among its members to be its representative on the general body of the Society. Such delegate shall continue to be its representative for a period of.....years or till his successor is elected by the affiliated society concerned. An affiliated society can withdraw its delegate at any time and send another instead. A delegate ceasing to be a member of the affiliated society which he represents shall cease to represent it. The following among other matters shall be dealt with by the general body.

- (1) the election and removal of the Board of Directors;
- (2) the annual report due to the Registrar of Co-operative Societies;
- (3) the Registrar's annual audit certificate;
- (4) the amendment or repeal of any existing bye-law or the enactment of a new bye-law;
- (5) the expulsion of a member;
- (6) the consideration of any complaint which any individual member may prefer against the Board of Directors; and
- (7) the returns that may be prescribed by the Local Government.

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35. A meeting of the general body of the members may be convened, whenever necessary, for the conduct of the business by the Board of Directors and shall be so convened by the Board of Directors at the request of 15 or more members (individuals or representatives of societies) or at the instance of the Registrar.

36. It shall be the duty of every member to attend the meetings of the general body. The quorum for the general body meeting shall be..... or one-fourth of the total number of members on the list at the time, whichever is less.

37. The President, when present, shall preside at the meetings of the general body. In his absence the body may choose a chairman from their number to preside at the meeting. Every member shall have one and only one vote. All questions shall be decided by a majority of votes of the members present and voting. When votes are equal, the chairman of the meeting shall have a casting vote.

38.....day's notice shall ordinarily be given to members before a meeting of the general body is convened.

39. If an individual member deceives the Society in any way, or if his general conduct is such as to render his removal necessary in the interest of the Society, it shall be open to the general body to expel such member. An individual member expelled shall be paid all moneys due to him from the Society, after deducting therefrom any money due from him to the Society. An individual member who drives the Society to Court to recover the money due from him shall, for that reason, be expelled from membership. An individual member expelled shall be liable, as provided in by-law 3, for the debts due to the Society as they stood on the date of his expulsion, for a period of two years after such expulsion.

40. **Loans.**—Loans shall be given only to members, but no member can claim a loan as a matter of right. Applications for loans shall be disposed of by the Board of Directors.

41. All applications for loans shall be made to the Secretary in the form, if necessary, prescribed for the purposes who shall place them before the Board of Directors.

42. No member shall at any time be indebted to the Society by way of principal to the extent of more than Rs..... on account of any loan or loans taken by him.

43. Interest on loans granted by the Society shall for the present be charged at one and a half pies per rupee per mensem, the first month being reckoned from the date on which the loan is paid to the corresponding date of the next. Every fraction of a month shall be treated as a whole month if it be more than 15 days and as half a month if it be 15 days or less.

44. Loans may be given on the security of agricultural produce pledged to the Society and placed in its custody. No loan shall be given exceeding 60 per cent. of the market value as fixed by the Board of Directors of the produce pledged by the borrowing member.

45. A loan is repayable as soon as the produce which forms the security for it is sold and in any case not later than six months from the date of disbursement of the loan, in the event of a borrower being unable to repay, the Board of Directors may, for satisfactory reasons

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to be recorded in writing, give him an extension of time for a period not exceeding one year from the original date of the loan. If a borrower does not pay his dues on the due date it shall be competent for the Board of Directors to sell without notice to the borrower and without his consent the produce pledged and credit the sale-proceeds to his loan account. If there is a deficit the borrower shall make it good.

46. The amount of paid-up share capital, deposit and any other money to the credit of a member or a past member shall be subject to a first charge in favour of the Society in respect of any moneys due to the Society from such member or past member. The Society shall be at liberty to appropriate the whole or any portion of such paid-up share capital or deposit or any other money to the moneys due by the member to the Society.

47. When a member from whom money is due pays any sum it shall be appropriated in the following order:—

Firstly, to fees, fines, postal registration and other miscellaneous charges due by him;
secondly, to interest; and
thirdly, to principal.

48. When a loan is not paid on the due date, the loan account shall at once be closed and the Board of Directors shall inform the borrower of the fact and of the amount outstanding against him including interest up to the date of closing the loan account. On the total amount so found due, the borrower shall be charged interest at 2 pies per rupee per mensem from the date of closing the loan account to the date of recovery and steps shall be taken without delay to recover the amount.

49. If a member becomes ineligible for membership at any time and his name has on that account to be removed from the list of members under bye-law 9 or a member should be expelled under bye-law 39 the loan account, if any, of the member concerned shall at once be closed without reference to the term for which the loan has been granted and action shall be taken to recover from the borrower the amount outstanding against him including interest up to the date of closing the loan account. Interest shall be charged at 2 pies per rupee per mensem on the amount so found outstanding from the date of closing the loan account to the date of recovery.

50. **Profits.** The net profits of the society as declared by the Registrar every year shall be disposed of as shown below:—

(1) fifty per cent. shall be carried to the credit of the reserve fund;

(2) out of the remainder, a dividend subject to a maximum of 9 per cent. per annum on the paid-up value of each share may be paid to members proportionately to the amount of paid-up share capital held by each and also to the period during which the paid-up share capital was so held during the year;

(3) out of the remainder—

(a) an honorarium of 12½% of the net profits subject to a maximum of Rs.....may be paid to the Secretary;

(b) a sum not exceeding 7½% of the net profits may be paid to a Common Good Fund to be utilized for any

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of the purposes mentioned in section 2 of the Charitable Endowments Act VI of 1890 (India) namely....
....., if the General Body so wish;

- (c) a sum not exceeding.....per cent. of the net profits may be carried to a Building Fund if the general body so wish.

(4) any profits not allotted in the manner aforesaid in any year shall be forthwith added to the Reserve Fund.

All undistributable and indivisible profits shall be added to the Reserve Fund.

51. Reserve Fund (1) The reserve fund shall belong to the Society as a whole and is intended to meet unforeseen losses. No member can claim a share in it. It shall not be drawn upon except with the sanction of the Registrar.

(2) On the dissolution of the Society the reserve fund and other funds contributed by it under provisions of its by-laws shall be applied:

- (i) to discharging such liabilities of the Society as may remain undischarged after the enforcement in full of the liability of the members of the Society,
- (ii) to the repayment of the share capital paid-up, and
- (iii) to the payment of dividend upon such share capital at a rate not exceeding 9% per annum for any period or periods for which no dividend has been paid.

(3) Such portion of these funds as shall remain after payments mentioned in sub-clause (2) shall be applied to such local objects of public utility as may be selected by the general body and approved of by the Registrar. If within three months of the final closing up of the Society the general body fails to make any selection that is approved of by the Registrar the latter may use the above mentioned portion of the funds in supporting other co-operative societies in the neighbourhood or shall place the same on interest or otherwise with some co-operative bank until a new co-operative society with a similar area of operations is registered in which even the funds shall be credited to the reserve fund of such society.

51-A. If, however, at any time the general body resolves to split the society into more than one society by excluding a portion of the existing area of operations from the operations of the society, and a new society or societies be registered to cover the area so excluded, a portion of the reserve fund shall be transferred to the society or societies as decided upon by the general body which resolves upon the splitting of the original society.

52. Miscellaneous. No amendment to, alteration in, or cancellation of, a by-law nor the enactment of a new by-law shall be made except at the general meeting of the members or shall take effect until it shall have been approved by the Registrar.

53. Should any doubt arise as to the construction of the Act or any by-law, the Board of Directors shall refer the same to the Registrar of Co-operative Societies for advice and act according to his advice.

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54. The Society shall prepare annually in such form as may be prescribed by the Registrar (a) a statement showing the receipts and disbursements for the year, (b) a profit and loss account, (c) a balance sheet and (d) such other statements as may be prescribed by the Registrar.

These statements shall be made up to 30th June and a copy of each shall be sent to the Registrar within fifteen days after the close of the co-operative year ending 30th June. After the Registrar has verified the statements and granted his audit certificate, the Society shall publish such of the prescribed statements as he may direct in the manner prescribed by him.

55. In the case of a dispute touching the business of the Society between members or past members of the Society, or persons claiming through a member or past member or between a member or past member, or persons so claiming and the Board of Directors, a reference in writing may be made by any party to the Registrar. Similarly, in the case of a dispute relating to a debt issued to the Society by a member or past member or persons claiming through a member or past member, a reference in writing may be made by either party to the Registrar. The Registrar shall have power, on receipt of such reference, either to decide the dispute himself or refer it to an arbitrator appointed by him or to several arbitrators of whom one shall be appointed by him and one other by each of the parties to the dispute. The decision or award of the Registrar or of the arbitrator or arbitrators as the case may be shall be final and it may be enforced in either of these ways—

(a) by an application made to the Collector of the district through the Registrar of Co-operative Societies requesting that the amount due under the decision or award may be recovered in the same manner as arrears of land revenue;

(b) by an application to the Civil Court having jurisdiction over the subject-matter of the decision or award requesting that the Court may enforce the decision or award as if it were a decree of the Court.

56. Should any sum belonging to the Society be either stolen or otherwise lost and found irrecoverable, it shall be open to the general body to write off such amounts after obtaining the sanction of the Registrar.

APPENDIX D.

THE HYDERABAD AGRICULTURAL MARKETS ACT
NO. II OF 1339 FASLI

(Received the Assent of His Exalted Highness on the 8th Mehir, 1339 F.)

Preamble.—WHEREAS it is expedient to provide for the establishment of open markets for the purchase and sale of cotton and of other agricultural produce in His Exalted Highness the Nizam's Dominions, and for the better regulation of such markets and for the use of Osmania Currency, it is hereby enacted as follows:—

1. **Short Title, Extent & Commencement.**—This act may be called the Hyderabad Agricultural Markets Act; and will come into force in His Exalted Highness the Nizam's Dominions from the date of its publication in the *Jareeda*.

2. **Definitions.**—In this act, unless there is anything repugnant in the subject or context:—

- (i) "Agricultural produce" means any produce of land not being cotton, which is declared by His Exalted Highness the Nizam's Government by notification in the *Jareeda* to be agricultural produce for the purpose of this Act.
- (ii) **Cotton.**—"Cotton" includes ginned cotton, unginned cotton and cotton waste.
- (iii) **Market prescribed.**—"Market" means a market established under Section 3.
- (iv) "Prescribed" means prescribed by rules or bye-laws made under this Act.

3. **Notification regarding the Establishment of an Agricultural Produce or Cotton Market.**—(i) His Exalted Highness the Nizam's Government may by notification in the *Jareeda* declare that any place shall be a market established under this Act either for agricultural produce or for cotton or for both.

(ii) Every such notification shall define the limits of the markets so established and may for the purpose of this Act include within such limits such local area as the Government may prescribe.

4. **The Market Committee.**—For every market there shall be a Market Committee, which shall be constituted as prescribed and shall consist of not less than eight and not more than 16 members. Of these not less than half shall be persons elected by or nominated from among the growers of agricultural produce or cotton of such area as His Exalted Highness the Nizam's Government may prescribe. Not less than one-fourth shall be elected by the traders in such manner as may be prescribed and the remainder shall be nominated by Government.

5. **Rules.**—(1) Government may, either generally or specially for any market or group of such markets, make rules consistent with this Act for the purpose of the management and regulation of such market under this Act.

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(2) In particular and without prejudice to the generality of the foregoing power, such rules may provide for or regulate

- (i) the election and nomination of members of the market committee, the number of members to be nominated or elected by each of the bodies in accordance with Section 4, and the manner of nomination or election and the term of Office of such members;
- (ii) the powers to be exercised by the market committee;
- (iii) election of chairman of the market committee and the term of his office;
- (iv) the filling of casual vacancies in the office of members or in the office of chairman of the market committee;
- (v) the management of the market and the prescribing of fees by the market committee, and, subject to the provisions of this Act, the collection and disposal of such fees;
- (vi) the issue by the market committee of licenses to brokers, weighmen, measurers, surveyors, and warehousemen and other persons using the market, the form in which and the conditions under which such license shall be issued; and the fees to be charged for such licenses;
- (vii) the place or places at which cotton or agricultural produce shall be weighed or measured, and the kind and description of the scales, weights and measures to be used at such place or places;
- (viii) the periodical inspection, verification and correction of all scales, weights and measures in use in the market;
- (ix) the trade allowances which may be made or received by any person in any transaction in a market;
- (x) the settlement by arbitration, of all disputes between a buyer and seller of cotton or agricultural produce or their agents regarding the quality or weight of the cotton or agricultural produce, the price or rate to be paid, the allowances for wrappings, dirt or impurities or deductions for any cause;
- (xi) the prohibition of brokers from acting on behalf of both the buyer and seller in any transaction;
- (xii) the manner in which the auctions shall be conducted and bids made and accepted in any market;
- (xiii) the provision of storage, arrangements for cotton and agricultural produce;
- (xiv) the preparation of plans and estimates for works proposed to be constructed partly or wholly at the expense of the market committee and the grant of sanction to such plans and estimates;
- (xv) the form in which the accounts of the market committee shall be kept, the manner in which they shall be audited, and the time or times at which they shall be published;
- (xvi) the preparation of an annual budget and its submission for sanction, and the reports and returns which shall be furnished by the market committee;

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(xvii) the disposal of any surplus funds of the market committee.

(3) Any such rules may, when necessary, provide that any contravention thereof or of any of the conditions of any license issued thereunder shall be punishable with fine which may extend to five hundred rupees.

(4) Powers to frame rules conferred under this section are subject to the condition that such rules will be enforced after being previously published.

6. Subject to any rules made by Government under Section 5 and by-laws. With the previous sanction of such officer as the Government may designate in this behalf, the market committee may in respect of the market under its management, make by-laws for the regulation of the business and the conditions of trading in such market and may provide that contravention thereof shall be punishable with fine which may extend to fifty rupees.

7. Sub-Committees & Joint-Committees & Delegation of Powers.—The Market Committee may appoint one or more of its members to be a sub-committee or to be a joint-committee for the conduct of any work or works or to report on any matter or matters, and may delegate to any one or more of its members such of its powers as may be necessary.

8. Appointments and Salaries of Servants of the Market Committee.—(1) The market committee may employ such officers and servants as may be necessary for the management of the market and may pay such officers and servants such salaries as the Committee thinks fit. The Committee may in the case of any officer or servant of Government which it employs, pay such pension contribution, gratuity or leave allowance as may be required by the regulations made by Government in this behalf and for the time being in force.

(2) The Committee may also, in the case of any of its officers and servants, provide for the payment to them of such leave allowances, pensions or gratuities as it deems proper; and may contribute to any provident fund which may be established for the benefit of such officers and servants.

(3) The powers conferred by this section on the market committee shall be exercised subject to any rules, which may be made in this behalf by the Government.

9. Contracts how executed.—(1) Every contract entered into by the market committee shall be in writing and shall be signed on behalf of the market committee by the chairman and two other members of the market committee.

(2) No contract other than a contract executed as provided in sub-section (1) shall be binding on a market committee.

10. The Market Committee Fund.—All moneys received by a market committee shall be paid into a fund to be called the "Market Committee Fund" and all expenditure made by the market committee under or for the purposes of this Act, shall be defrayed out of the said fund. Any surplus remaining after such expenditure has been met shall be expended as may be prescribed in the rules made in this behalf.

11. Purposes for which the market committee fund may be expended.—Subject to the provisions of Section 10 all fees collected by

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the market committee under this Act or the rules made thereunder shall be expended on:—

- (i) the maintenance and improvement of the market;
- (ii) the construction and repair of buildings required for the purposes of such market and on things necessary for the health, convenience and safety of the persons using it; and
- (iii) the pay, pensions, leave allowances and pension or provident fund contributions of the officers and servants employed by the market committee.

12. Trade Allowance not Recognized by Rules not Allowable:—

(1) No trade allowance, other than an allowance prescribed by rules or by-laws under this Act, shall be made or received by any person in any transaction in a market established under this Act, and no Civil Court shall, in any suit or proceeding arising out of any transaction in any such market have regard to any trade allowance not so prescribed.

Explanation.—Every deduction other than deductions on account of deviation from sample when the purchase is made by reference to a sample or on account of deviation from standard, or on account of difference between the actual weight or the sacking and the standard weight, or on account of the admixture of foreign matter shall be regarded as a trade allowance for the purpose of this Act.

13. Market Committees to be Bodies Corporate.—Every market committee will be considered as a Corporate Body and will be calledMarket Committee with perpetual succession and a Common Seal, and will institute and defend suits in the name by which it has been established as a Corporate Body, and will have power to hold property movable or immovable and keep it in its possession. It will have power to lease or sell or transfer in any way any such movable or immovable property which it may have acquired or in which it may have secured any rights. It will also have power to enter into contracts and to do all things necessary for the purpose of the Act.

14. Power to Obtain Loans.—(i) Any Market Committee may borrow money with the previous sanction of Government for the purpose of this Act on the security of such property which it has acquired or in which it has secured any rights, or on the securities of the fees collected under this Act.

- (ii) the conditions under which such loans are obtained and the period during which they are repayable will be subject to the previous approval of Government.

15. Dissolution of the Market Committee.—(i) If in the opinion of Government any Market Committee is considered incompetent to carry out the duties entrusted to it under or in accordance with this Act, or fails continuously to perform these duties or exceeds the powers given to it or misuses its powers, Government by notification in the *Jareeda*, will declare that such a Market Committee is incompetent to perform its duties or continuously fails in their performance, or has exceeded or misused its powers (as the case may be) and will dissolve the Committee.

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- (ii) When a Market Committee is dissolved, the members of the committee will cease to hold office from the date of such orders.
- (iii) When a Market Committee is dissolved, its property, rights and liabilities, will be transferred to Government, provided if no Market Committee is appointed subsequently under Section 4 for the Market, the remainder of the property of the market after the full settlement of the liabilities will be transferred to the Local Board or the Local Fund Offices of the area in which the Market was located for the purpose of public utility.

16. **Prohibition of working within the area of the market.**—No person may work as a broker, weighman, measurer, surveyor or warehouseman within the limits of the market unless he is employed by the market committee or has received a licence from it, and any person so doing shall be punished with fine which may extend to fifty rupees and should the offence be repeated to one hundred rupees for each day.

17. **No private market to be opened in or near places declared to be markets.**—Wherever His Exalted Highness the Nizam's Government has by a notification under section 3 declared any place to be a market, no person shall within the area of such market and within a distance thereof to be notified in the *Jareeda* in this behalf in each case by the Government, except with the sanction in writing of Government expressed over the signature of a Secretary to Government and subject to such conditions as may be imposed in such sanction, set up, establish or continue or allow to be continued any market for the purpose and sale of cotton or agricultural produce as the case may be.

18. **Penalties.**—Whoever in contravention of this Act, sets up, establishes, continues or allows to be continued any market for the purpose of the purchase and sale of cotton or agricultural produce or violates the conditions under which he has been allowed to set up, establish or continue, any such market, shall be punished with fine which may extend to Rs. 500 and, in case of a continuing breach of the provisions of Section 16, with fine which may extend to Rs. 100 for each day after the first during which the breach continues.

19. **Compulsory use of Osmania Sicca Currency.**—(1) In any market for cotton or agricultural produce, payments or bids will be received, made and accepted in Osmania Sicca Currency.

(2) Government may by a notification in the *Jareeda* declare the place other than the market, at which also Osmania Sicca will be used in connection with transaction mentioned in sub-section 1.

(3) Any person who shall contravene sub-section 1 or any orders issued under sub-section 2 will be punishable with a fine which may extend to Rs. 100 or to 10 per cent. of the bid made or accepted or the amount paid or accepted, whichever be greater.

20. **Offences to be triable only by First Class Magistrates.**—(1) No offence under this Act or under any rule made under Section 5 shall be triable by a magistrate other than a magistrate of the First Class.

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(2) All fines and damages recovered from an offender shall be paid to the Market Committee.

(3) Prosecutions under this Act may be instituted by any person duly authorized in writing by the market committee or by some officer designated by Government in this behalf.

THE HYDERABAD AGRICULTURAL MARKET RULES

In virtue of powers granted under Section V of the Hyderabad Agricultural Markets Act His Exalted Highness the Nizam's Government are pleased to make the following rules.

1. These rules shall be known as the "Hyderabad Agricultural Markets Rules" and shall apply to any market notified as such in the *Jareeda* under section 3 of the Hyderabad Agricultural Markets Act.

2. (a) The Market Committee shall consist of not less than twelve members in addition to the chairman who shall be nominated by Government.

(b) Any person claiming to be a *bona fide* trader dealing in the market may apply to the chairman to be registered as such and the election of the traders to the committee shall be made by such registered traders in such manner as the chairman may deem suitable.

3. The term of office of each member shall be for two years. If any member shall leave the market, or resign or die or shall cease to be qualified, another person shall be elected or nominated in his place for the remainder of the period of office.

4. The Committee shall have control over the cotton market as follows:—

(a) The Market Yard:—i.e., the enclosures known as the "Cotton Market Yard" and the "Grain Market" shall be under the absolute control of the Market Committee subject to the superintendence of the 1st Taluqdar of the District and the Director-General of Commerce and Industry.

(b) The Market Proper, will include the remainder of the area and all those ginning and pressing factories and their compounds that are notified under Section 3 (2). The Committee shall exercise such powers as may be necessary for the proper control of all dealings in and weighments of cotton or agricultural produce or for the supervision of carts, motors and animals bringing in cotton and agricultural produce and for the enforcement of the Market rules and by-laws.

5. No person, except a grower of cotton or agricultural produce, who is not interested in the market save as a seller of his own produce, shall buy or deal in cotton or agricultural produce, within the market, unless he has obtained a licence from the Committee in the manner prescribed in the by-laws. Such licences shall be renewed annually.

6. The Committee may license any person as a broker or dealer who makes a written application and agrees to conform to the conditions laid down by the Act and these rules and by such bye-laws as may be passed from time to time by the Market Committee, and pays such fee as may be prescribed from time to time.

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7. All weighments and measurements of Cotton or agricultural produce shall be carried out under the supervision of the Market Committee or such Agents as they may employ for the purpose either in the market yard or in the compound of some ginning or pressing factory, or in such place as may be prescribed by the Committee.

8. No weights, measures or scales shall be used in the market yard or the market proper except such as have been prescribed by the Committee, and the Committee may prescribe any particular form of scale to be used by any factory or buyer. The Committee shall make bye-laws for the periodical inspection, verification and correction of all scales, measures and weights in use in the market.

9. In the course of weighing or measuring, no allowances or reductions shall be made except those mentioned in the list sanctioned by the Market Committee and exhibited in a conspicuous place in the market yard.

10. An authenticated list of such allowances written in the vernaculars generally understood by sellers of cotton and agricultural produce shall be hung up in the compound of the market yard and of every ginning and pressing factory.

11. All cotton or agricultural produce brought in for sale to the market shall be sold by public auction in the market yard and if sold outside the market yard, it shall be sold at the market rate of that day.

12. All bids for cotton or agricultural produce shall be made publicly in a loud voice in accordance with the by-laws and the highest bid for any quality of cotton or agricultural produce on any day shall be the rate bid for that quality for that day.

13. The daily rate or rates when fixed shall be exhibited in the vernaculars generally understood by sellers of cotton and agricultural produce in a conspicuous place in the market yard authenticated in such manner as the bye-laws may prescribe.

14. All disputes between a buyer and seller of cotton or agricultural produce or their agents regarding the quality or weight of the cotton or agricultural produce, the price or rate to be paid, the allowances for wrappings, dirt or impurities or deductions for any cause shall be referred to the Market Committee or to arbitrators appointed by them and the decision of the Committee or arbitrators shall be final.

15. The Committee shall make by-laws for such arbitrations, and such bye-laws shall provide for the formation of panels of arbitrators from among whom the parties may select arbitrators and for the payment of fees for arbitrations, the cost of which shall be borne as decided by the arbitrators in each case.

16. No broker or a dealer shall act on behalf of both the buyer and seller in any transaction in the market.

17. The Market Committee may appoint or employ such officers and servants as may be necessary for the efficient management of the market and may assign to such officers and servants such salaries as it thinks fit.

18. All weighments or measurements of cotton or agricultural produce shall be made by employees of the Committee or by persons

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licensed by the Committee who shall receive such fees from buyers and sellers as may be prescribed by the Committee.

19. (a) No person shall act as weighman, measurer, or warehouseman or earn a salary or fees in any capacity connected with the market or the buying or selling or warehousing of cotton or agricultural produce unless he is employed or licensed by the Committee in accordance with their by-laws.

(b) Such licences shall be renewable annually on payment of the fee prescribed by the Committee.

20. (a) The Committee may cancel the licence of any person registered as a broker or dealer who violates the conditions of the licence, but an appeal will lie with the Director-General of Commerce and Industry or such person as may be designated by Government on this behalf against any such decision.

(b) The Committee may cancel any other licence issued by them for reasons to be recorded in writing and such decision shall be final.

21. No broker or dealer or other licensee whose licence has been cancelled may have access to the Cotton market or the compound of any ginning and pressing factory or be concerned in any transaction in the market. Any person transgressing this rule shall be punishable with fine which may extend to Rs. 500 for each offence.

22. The Committee shall maintain lists of licensed buyers and brokers and of licensed weighmen. Copies of these lists shall be exhibited on the market notice board under the signature of the Chairman. Notices of cancellation of any licence shall be exhibited in the same way. Any person dealing with or employing any unlicensed person within the market proper shall himself be liable after due notice to be expelled from the cotton market yard and to have his licence cancelled.

23. The fees payable to licensed brokers shall be fixed by the Market Committee.

24. The Market Committee may arrange for the storage of cotton or agricultural produce in accordance with bye-laws framed in this behalf.

25. If the Market Committee wishes to construct any works wholly or partly at the expense of the market fund, it shall first of all cause outline plans and rough estimates for such works to be prepared and shall submit such plans and estimates for the sanction of the Director-General of Commerce and Industry or such person as shall be appointed by Government in this behalf.

26. The Market Committee shall keep accounts of all moneys received and expended in accordance with by-laws to be framed in this behalf. Such accounts shall be audited by an officer approved by the Director-General of Commerce and Industry or such officer as Government may designate on his behalf and shall be published at least once a year and fixed to the market notice board.

27. The Committee shall prepare its budget annually not less than 3 months before the beginning of the Fasil year and shall submit the same for sanction to the Director-General of Commerce and Industry through such officer as may be appointed in this behalf.

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28. The Committee may levy such fees on all motors, carts and animals bringing in cotton or agricultural produce to the market as may be prescribed by the Director-General of Commerce and Industry or such officer designated by Government in this behalf and which shall not exceed the maximum fees notified by Government in the *Jareeda*.

29. The Chairman shall be responsible that proper records are maintained and shall conduct all correspondence in the name of the Committee. He shall be responsible for the keeping of accounts, for the punctual rendering of all reports and accounts and for the custody of all moneys not deposited in the Treasury.

30. The Chairman shall have a casting vote in addition to his ordinary vote, and shall keep a minute-book of all proceedings signed by himself.

31. The Market Committee shall exercise all their powers subject to the general control of the Director-General of Commerce and Industry and in particular no by-law shall be prescribed and no fee levied, no weights or scales approved, no conditions of any licence added or altered, no officers employed or scales of pay fixed and no allowances or deductions approved without his previous sanction.

32. Three shall form a *quorum* of the Market Committee.

(Sd.) B. A. COLLINS,
Director-General & Secretary,
Industries & Commerce.

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RULES UNDER THE BERAR COTTON & GRAIN MARKETS LAW, 1897.

Government of the Central Provinces. Agricultural Department.

NOTIFICATION.

Nagpur, the 20th January, 1931.

No. 58-93-XIV.—In exercise of the powers conferred by section 4 of the Berar Cotton and Grain Markets Law, 1897, the Local Government is pleased to make the following rules in supersession of all rules previously made under that section:—

1. **Constitution of the Market Management Committee.**—(1) Immediately on the publication of these rules or on the publication of a notification under section 2 of the Law, the Deputy Commissioner of the district shall arrange for the appointment of a market management committee for each market or bazar (hereinafter referred to as a market) in the district, which shall consist of not less than eight nor more than twelve members. Of the total number, one shall be nominated by the district council, and one by the municipal committee, notified area committee, village sanitation panchayat or village panchayat, if any, established in the town or village, where the market is held and one by the cotton sale societies, if any, registered under the Co-operative Societies Act, 1912, and having their registered addresses in such town or village. Of the remainder, half shall be the representatives of the cotton-growers and the other half of the local cotton trade of the area served by the market.

Explanation.—The area served by the market shall be such area as may be determined by the Deputy Commissioner for the purpose of each general election: provided that the area served does not cut across boundaries of taluqs and districts and does not overlap those of markets in close proximity.

(2) Appointments to the market management committee (hereinafter called the committee) shall be made and regulated as follows:—

- (a) representatives of the cotton trade for the first period of one year shall be nominated by the Local Government and thereafter shall be elected by the cotton traders of the area served by the market in the manner hereinafter prescribed;
- (b) representatives of the cotton-growers for the first period of one year shall be nominated by the Local Government and thereafter shall be elected by the cotton-growers of the area served by the market in the manner hereinafter prescribed;

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- (c) the representative of a local body shall be a member of the local body, shall be nominated by the local body, and shall cease to be a member of the committee if he ceases to be a member of the local body; and
- (d) the representative of a cotton sale society shall be a member of the society, shall be nominated by the society, and shall cease to be a member of the committee if he ceases to be a member of the society.

(3) In the event of any local body or society failing to make the nomination by the date prescribed by the Deputy Commissioner, the vacancy may be filled by the Deputy Commissioner by nomination from amongst the members of the local body or society concerned.

2. The Electorates.—(1) The following persons, provided they have been registered as cotton traders under rule 57, shall form the cotton trade electorate and shall be qualified to be elected as representatives of the trade on the committee.

- (a) every person who, on his own account, or on account of the undivided Hindu family of which he is the manager, has, in the financial year immediately preceding the financial year in which the election is held, purchased or sold in the market, as shown in the market registers, not less than 100 bojas of ginned cotton or not less than 100 khandis of unginned cotton;
- (b) the principal agent, or, if the principal agent is otherwise disqualified, the next senior agent or servant of every firm or company, which has, in the financial year immediately preceding the financial year in which the election is held, purchased or sold in the market, as shown in the market registers, not less than 500 bojas of ginned cotton or not less than 500 khandis of unginned cotton; and
- (c) every “adatya” who has, in the financial year immediately preceding the financial year in which the election is held, purchased or sold in the market, as shown in the market registers, not less than 500 bojas of ginned cotton or not less than 500 khandis of unginned cotton.

Explanation.—An “adatya” means a general commission agent, who, in consideration of “adat” or commission, offers to make, or makes, purchases or sales of cotton, or offers to do, or does, things necessary for completing and carrying out those purchases or sales for and on account of others, that is, his principals or constituents.

(2) The cotton-growers’ electorate from which shall be elected the representatives of growers of cotton on the committee shall consist of growers of cotton residing within the area served by the market concerned who are:—

- (i) persons holding in such area land assessed to land revenue of not less than an amount as shown in the schedule below; or

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- (ii) tenants in such area paying an annual rent of not less than an amount as shown in the schedule below:—

SCHEDULE

Cotton markets.	For occupants of Khalsa land and holders of alienated lands and villages.	For tenants of Khalsa lands.	For tenants in alienated villages.
All cotton markets in the Amraoti Akola and Buldana districts.	Holding of land assessed to land revenue of not less than Rs. 15 in the case of cotton markets in the Melghat group and Rs. 25/- in the case of those in all other cotton markets.	Assessment of an annual rent in respect of land of not less than Rs. 150/-.	Assessment of an annual rent in respect of land of not less than Rs. 45/-.
All cotton markets in the Yeotmal district.	Holding of land assessed to land revenue of not less than Rs. 15/-.	Assessment of an annual rent in respect of land of not less than Rs. 100/-.	Assessment of an annual rent in respect of not less than Rs. 45/-.

Explanation.—The term “grower of cotton” shall not include a dealer or broker in cotton, although such a person may grow cotton. If a question arises whether any person is a grower of cotton or not, for the purpose of this rule, the decision of the Deputy Commissioner shall be final.

(3) For the purpose of these rules, a person shall be deemed to be a resident of the area if he—

(a) has actually dwelt in a house or part of a house within the area for an aggregate period of not less than 180 days during the calendar year preceding that in which the electoral roll for the time being under preparation is first published; or

(b) has maintained within the area for an aggregate period of not less than 180 days during that year a house or part of a house as a dwelling for himself in charge of his dependents or servants and has visited such house during the year in connection with his business in the area.

3. Disqualification of Voters & Members.—(1) No person shall be entitled to vote or to be a member of the committee who—

(a) does not reside in the area served by the market concerned; or

(b) is under twenty-one years of age or has been adjudged by a competent Court to be of unsound mind; or

(c) is an undischarged insolvent or being a discharged insolvent has not obtained from the Court a certificate that his insolvency was caused by misfortune without any misconduct on his part; or

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- (d) is a clerk or servant of the committee or is a licensed broker or a licensed weighman; or
- (e) has directly or indirectly any share or interest in any contract or employment with or on behalf of or under the committee.

(2) Any Chairman or member who, at any stage after his nomination or election, becomes subject to any of the disqualifications specified in sub-rule (1) shall, on the order of the Deputy Commissioner, cease to be a chairman or member.

4. Voters' Lists.—(1) The Deputy Commissioner shall cause to be prepared and published in the vernacular of the district, as soon as possible after the 1st April of the last year of the term of the committee, separate lists of voters qualified to vote under rules 2 (1) and 2 (2).

(2) The Voters' list shall show the name, father's name, surname, if possible, caste, age, residence and serial number of the voter and the nature of his qualification.

(3) The Deputy Commissioner shall cause a sufficient number of copies of the list to be prepared in such manner as he considers convenient.

(4) A candidate for election shall be entitled to purchase from the Deputy Commissioner at a fair price one copy of the list of voters.

5. Publication of the Voters' List.—(1) A copy of the list of voters for either electorate shall, as soon as it is ready, be published by the Deputy Commissioner for general information at each of the following places:—

- (a) For the cotton trade electorate—
the Deputy Commissioner's office;
the Tahsildar's office;
the office of the local body concerned; and
the principal gate or office building of the cotton market;
- (b) For the cotton-growers' electorate—
the Deputy Commissioner's office;
the Tahsildar's office;
the principal gate or office building of the cotton market;
the village chaodi or other conspicuous place in each village concerned;

Provided that only a copy of that portion of the list which contains the names of voters resident in any village need be posted in that village.

(2) When publishing the list, the Deputy Commissioner shall fix a date not more than one month after the publication of the list, before which applications for the inclusion, exclusion, or correction of any name should reach him. The Deputy Commissioner, or any subordinate officer not below the rank of Tahsildar deputed by the Deputy Commissioner, shall hear and dispose of any applications and objections received before such date and his decision shall be final.

(3) The amended lists corrected in accordance with orders passed under sub-rule (2) shall be republished at the places mentioned in sub-rule (1). Lists not amended need not be republished.

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6. Fixing of the Dates for Election & the Receipt & Scrutiny of Nomination Papers.—(1) The election proceedings shall be supervised by the Deputy Commissioner or any other officer not below the rank of Tahsildar appointed by him.

(2) At least six weeks before an election, the Deputy Commissioner shall fix the days, hours and places for polling. He shall also fix the place and date and hours for the receipt of nomination papers by the supervising officer. The date for nomination shall not be less than a month before the date of election. He shall also fix another date which shall not be less than twenty-two days before the day of election for the scrutiny of the nomination papers by the supervising officer. All these dates and places shall be notified by posting statements containing them on the notice boards of the cotton market office, tahsil office and the local board office, village chaedi or other conspicuous place in each village concerned. Proclamations setting forth the days, hours and places fixed for polling and calling upon the voters to be in attendance shall also be made within the area served by the market at least eight days before the election.

(3) On the date fixed for the receipt of the nomination papers, an intending candidate for election shall be nominated by at least two voters. The nomination shall be reduced to writing and signed by the candidate and proposers in the presence of the supervising officer, who shall sign and date the nomination paper and shall, as soon as may be, cause to be affixed in some conspicuous place in his office and in the market office a list of persons nominated together with the names of their proposers.

(4) On the date fixed for the scrutiny, the candidates and their proposers may attend the office of the supervising officer who shall give them all reasonable facilities for examining the nomination papers which have been delivered to him. The supervising officer shall also examine these papers and shall decide all objections which may have been made to any nomination, and may either on such objection or of his own motion after such summary enquiry, if any, as he thinks necessary, refuse any nomination. He shall endorse on each nomination paper his decision accepting or rejecting it, and if the nomination paper is rejected, shall record in writing a brief statement of his reasons for such rejection. On completion of the scrutiny, which should be completed on the same day, the supervising officer shall forthwith prepare a list of valid nominations and cause it to be affixed to some conspicuous place in the cotton market office. A copy of such list shall also be posted at the polling centres.

(5) If the number of duly nominated candidates does not exceed the number of vacancies, all such candidates shall be declared to be duly elected. If the number of such candidates exceeds the number of vacancies, the elections shall be held in the manner laid down in these rules.

(6) A candidate who has been duly nominated for election may withdraw his candidature by a written and signed communication delivered to the supervising officer not less than 7 clear days before the date fixed for election. A candidate who has withdrawn his candidature shall not be allowed to cancel the withdrawal or to be renominated as a candidate for the election.

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7. Number of Votes Allowed.—Every voter shall have as many votes as there are members to be elected for the constituency, provided that no voter shall give more than one vote to any one candidate.

8. Polling Arrangements and Manner of Recording Votes.—The Deputy Commissioner shall fix the polling centres and shall appoint one or more polling officers who shall be supplied with a list of duly nominated candidates. During the hours fixed for election the polling officer shall satisfy himself of the identity of every intending voter, and of the fact that his name is entered in the list of voters, and shall initial the entry in token thereof. Every voter wishing to vote shall be furnished with a voting paper in the form prescribed below containing the names of the duly nominated candidates. The voter shall put a × (cross mark) against the name of the candidate for whom he desires to vote and shall sign the voting paper. If the voter is illiterate, the polling officer shall put cross marks against the names of the candidates to whom the voter desires to give his vote, and take his thumb mark on the voting paper. The voting shall be made secretly. The voter shall put the voting paper in the ballot box:—

FORM OF VOTING PAPER

	Constituency and market		
	Serial No.	Name of the Candidate.	Cross
1. (Here print name of constituency.)	1	A B	
2. (No. on the voters' list.)	2	C D	
	3	E F	

Book No. (To be printed on reverse).
Serial No.

Book No. (To be printed on reverse).
Serial No.

9. Scrutiny & Counting of Votes & Declaration of Result.—(1) The polling officers shall be furnished with ballot boxes. The boxes shall be securely locked and the keys shall remain with the supervising officer. A slit shall be provided in the top through which the voting papers are to be inserted. At the close of the poll, paper shall be pasted over such slits and sealed by the polling officer in the presence of any of the candidates or their agents who may desire to be present. The boxes containing the voting papers shall be delivered by the polling officer to the supervising officer who shall open them and count the votes in the presence of any of the candidates or their agents who may desire to be present. Any votes which have not been recorded in accordance with these rules shall be rejected and the supervising officer shall endorse and sign an order to this effect on each rejected voting paper.

(2) The candidate or candidates at the head of the poll shall be declared elected. Where an equality of votes is found to exist between any candidates and the addition of one vote will entitle any of the candidates to be declared elected, the determination of the

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person or persons to whom such one additional vote shall be deemed to have been given shall be made by lot to be drawn in the presence of the supervising officer and the candidates or their agents who may desire to be present and in such manner as the supervising officer may determine. The result of the election shall be published forthwith at the market office by posting thereon a list, signed by the supervising officer, showing the persons elected.

(3) The voting papers and the copy of the voters' list shall, at the conclusion of the elections, be sealed by the supervising officer and kept by the Deputy Commissioner for a period of three months.

10. Election Petition.—No election of a member or chairman shall be called into question, except by a petition presented to the Deputy Commissioner within fourteen days from the date on which the result of the election was published at the market office. The petition shall be accompanied by a deposit of Rs. 100 as security, or such deposit, if it does not accompany the petition, shall be paid within such time as the Deputy Commissioner may fix. If the security is not deposited within the time fixed, the Deputy Commissioner shall dismiss the petition. The Deputy Commissioner may send the petition to any of his subordinates not below the rank of Naib-Tahsildar for enquiry or disposal.

11. Declaration of Election as Void.—(a) If, after such enquiry as he considers necessary, the Deputy Commissioner or his subordinate, as the case may be, is of opinion that the election complained of has been procured or induced or the result of the election has been materially affected by any corrupt or illegal practice, or non-compliance with any rule, he may declare it void and order a fresh election to be held.

(b) For the purpose of this rule the following shall be deemed to be corrupt and illegal practices:—

Bribery, undue influence and personation at elections as defined in sections 171 (b), 171 (c) and 171 (d) of Chapter IX-A of the Indian Penal Code, 1860.

12. Powers of a Revenue Officer.—The Deputy Commissioner or his subordinate making an enquiry under rule 11 shall have the powers of a Revenue Officer specified in section 20 of the Berar Land Revenue Code, 1928; but his order shall be final.

13. Publication of a Complete List of Members.—A complete list of members of the newly-formed committee and the names of persons elected to fill up casual vacancies shall be published in the Central Provinces Gazette by the Deputy Commissioner.

14. Term of Committee.—The committee shall come into office on the 1st of October of the year in which the list is published in the Gazette under rule 13 or on the date of such publication, whichever is the later. It shall hold office until the expiration of three years from the 1st of October of the year in which the list is published; provided that the first nominated committee shall hold office for one year only. The members elected or nominated to fill casual vacancies, and members of the first committee of a newly-notified market shall come into office on the date on which their names are published in the Gazette. An outgoing member shall, unless the Local Government

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otherwise directs, continue in office until the appointment of his successor is published.

15. Filling of Vacancy of Elected or Nominated Members.—If a casual vacancy amongst the elected or nominated members of the committee occurs owing to a member having died, resigned or being removed or becoming ineligible for office, it shall be filled in the same manner as in the case of the original election or nomination.

16. Resignation by Chairman or Member.—No resignation tendered by the chairman or a member shall be valid until it has been accepted by the Deputy Commissioner.

17. Removal of Chairman or Member.—The Deputy Commissioner may at any time remove a chairman or member if he refuses to act or becomes incapable of acting or if his continuance in office is undesirable in the interests of the public or the committee; provided that no chairman or member shall be removed unless the committee recommends his removal by a majority of two-thirds of its members.

18. Supersession of the Committees.—The Local Government may, in case of mismanagement or misconduct, supersede a committee and make such arrangement for carrying out its functions as it may think fit.

19. Duties of the Committee.—The committee shall do everything in its power to ensure fair trading and prompt payment in all transactions conducted within the market. It shall, so far as the funds at its disposal permit, but subject to the provisions of these rules, provide—

- (a) for the maintenance and improvement of the market, its surroundings and approaches;
- (b) for the construction and repair of buildings, chabutras and other erections required for the market;
- (c) for the health, convenience and safety of persons using the market; and
- (d) for a provident fund system for its employees.

20. Powers of the Committee to make By-Laws.—The committee may, with the previous sanction of the Deputy Commissioner, from time to time make by-laws consistent with these rules—

- (a) as to the time and place of meeting;
- (b) as to the manner of convening meetings and of giving notice therefor;
- (c) as to the quorum required at meetings;
- (d) as to the conduct of proceedings at meetings;
- (e) as to the division of duties among the members;
- (f) as to the persons by whom receipts may be granted on behalf of the committee for money paid;
- (g) for the guidance of its members and officers and all persons employed or appointed for the purpose of carrying into effect the law or rules framed under the law;
- (h) the method of disposal and hearing of complaints; and,
- (i) the regulation of the duties of brokers and adatyas.

21. Appointment of Sub-Committee or Joint Committee and Delegation of Powers to Members.—(1) The committee may appoint one or more of its members to be a sub-committee for the conduct of

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any work or works or to report on any matter or matters, and may delegate to such sub-committee or to any member of the committee such of its powers as may be necessary.

(2) The committee may unite with the district council or with any local body established in the town or village where the market is held or in the area served by the market or with any adjoining cotton market committee (or with more than one of these) in appointing a joint committee from among themselves for any purpose in which they are jointly interested and delegating to such joint committee such of its own powers as may be necessary.

(3) The committee shall appoint a sub-committee called the disputes sub-committee consisting of one representative of the cotton growers, one of the cotton traders and one from the representatives of the local bodies on the committee to settle any dispute that may be referred to it either by the committee or by the buyers or sellers or both. The dispute shall so far as possible be decided on the spot and on the same day.

22. Election, Powers & Duties of the Chairman.—The Committee shall elect one of its members to be the Chairman and the name of the member elected shall be published at the market office by posting thereon a notice of the result of the election signed by the person presiding at the meeting at which the election was held. He shall conduct all correspondence and sign all contracts entered into by the Committee. The servants of the Committee shall, subject to these rules and to the orders of the Committee, be subject to his control. He shall be responsible for the keeping of the accounts, for the punctual rendering of all reports and returns and for the custody of all moneys not deposited in the treasury or with a banker, and shall be the chief executive officer of the Committee.

23. Term of Office and Casual Vacancies in the Office of Chairman.—The Chairman shall hold office from the date of his election until a new Committee has come into office. But in the event of the Chairman's dying, resigning, or being removed, the Committee shall elect another Chairman.

24. Meetings of the Committee. Chairman to preside.—The Chairman, or in his absence a member selected for the occasion, shall preside at meetings and the Chairman or presiding member shall be entitled to speak and vote in every case in which the votes are equally divided; provided that no person shall preside at any meeting at which the question of his own election or re-election is under consideration, and provided also that in the case of the election of the Chairman no member presiding shall have a casting vote.

25. Minute Book to be kept.—A Minute Book shall be kept for permanent record, and a record of the proceedings at every meeting shall be made by, or under the supervision of, the Chairman or other presiding member and shall be signed by him.

26. Persons entitled to attend Meetings.—The Deputy Commissioner or any of his assistants authorized by him in writing, the Chairman of the district council or any member of the council authorised by the Chairman or Deputy Commissioner in writing, the President of Municipal Committee, or any member of the Municipal Committee authorised by the President or the Deputy Commissioner

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in writing, the President of the notified area committee, the Chairman of the village sanitation committee, the *sirpanch* of the village panchayat and the members of the provincial cotton committee and Legislative Council shall be entitled to attend any meeting of the committee located within their jurisdiction. These additional members shall have no right to vote.

27. Meetings Open to the Public.—The meetings of the Committee shall ordinarily be open to the public, but the presiding officer may at any stage of the proceedings of a meeting ask the public to retire, and all outsiders shall thereupon retire.

28. Copy of Proceedings of Meetings.—A copy of the proceedings of every meeting of the Committee shall be forwarded to the Deputy Commissioner forthwith through the district council, or, if the market is situate within the limits of Municipal Committee or a notified area committee, through the Municipal Committee or the notified area Committee concerned.

29. Reference.—References from the Committee to any Government officer shall be made through the Deputy Commissioner.

30. Employment of Servants.—(a) The Committee may employ such servants as may be necessary and proper for the efficient execution of its duties, to such number and on such scale of pay as may be approved by the Deputy Commissioner.

(b) Any servant if dismissed, suspended or degraded by the Committee shall have a right of appeal to the Deputy Commissioner, provided such appeal is preferred within thirty days from the date of the order appealed against.

31. Control of the Deputy Commissioner over Establishment.—If, in the opinion of the Deputy Commissioner, any servant is unfit for his employment, the Committee shall, on the requisition of the Deputy Commissioner, dismiss such servant. In case of disagreement, the matter shall be referred to the Commissioner whose order shall be final.

32. Powers of the Committee.—Subject to the control of the Deputy Commissioner, to whom the Committee shall furnish all information which he may require, the Committee shall be responsible for—

- (a) the maintenance of proper checks on all receipts and payments by its officers; and
- (b) the proper execution of all works chargeable to the market fund.

33. Receipts how to be Credited.—Except where the Local Government, on application by the Committee, shall otherwise direct, all receipts on account of fees recovered under these rules and all other items of income whatsoever, shall be daily credited in full into the Government Treasury or sub-Treasury or a branch of the Imperial Bank, Co-operative or Post Office Savings Bank where there is one, and all balances shall be kept in such treasury or bank and shall not be drawn out except in accordance with these rules.

34. Transfer of the Surplus of the Committee.—The surplus of the Committee, on the 30th September, shall be transferred on the 1st of October of each year to the Municipal Committee or the district council concerned under Section 5 (2) of the Law.

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Explanation.—For the purpose of this rule, “surplus” means any excess over the minimum closing balance fixed by the Local Government for budget purposes in the case of each Committee, but does not include sums—

- (i) earmarked in the budget for specific works for which estimates have been framed and sanctioned, provided that such works are commenced within the next financial year of the Committee; or
- (ii) required for completion of works already in progress.

35. Payments how to be made.—All payments, except from imprest, shall be made by cheques drawn on behalf of the Committee, and no cheque shall be cashed by the treasury or the bank unless drawn as prescribed in Rule 36.

36. Expenditure.—Every cheque drawn on behalf of the Committee shall be signed by the Chairman or, in his absence, by any two members. No such cheque shall be drawn except on a bill which has to be examined and passed by the Chairman or on the issue or recoupment of an imprest, if any; and the Chairman shall not pass any bill for payment without the previous sanction of the Committee, except to provide for the following matters:—

- (a) salary of fixed establishment;
- (b) payment for works and repairs sanctioned by competent authority; or
- (c) urgent expenditure for which there is budget provision or which does not exceed Rs. 50.

Provided that, in the absence of the Chairman from the town, bills for payment of the above nature may be passed and signed by any two members.

37. Remittances to Treasury or Bank.—(1) All remittances to the Treasury or Bank shall be accompanied by challans in duplicate and a pass-book.

(2) All entries made in the pass-book by Treasury or Bank officials shall be examined by the Chairman after each transaction and any discrepancy discovered shall at once be brought to the notice of the Treasury or Bank.

38. Pass-book.—The Pass-book is not an account book of the Committee or bank of the money paid in and withdrawn on behalf of the Committee and must, therefore, be always written up-to-date by the treasury department or bank by whom the original account is kept.

39. Striking of Balance in Pass-book.—At the close of each month, the balance in the pass-book shall be struck and the amount written in words and signed by the treasury officer or the agent of the bank, manager or other authorized person, as the case may be.

40. Sanctions required for Works.—(1) Markets shall be divided into two classes by the Commissioner, according to the amount of receipts and the number of carts coming to the market:—

- (a) first class, and
- (b) second class.

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(2) Provision for works and repairs may be included in the budget estimates with the sanction of the Committee when the cost of the work does not exceed Rs. 500 in a first class market, or Rs. 200 in a second class market.

If the estimates exceed the above amounts the sanction of the Deputy Commissioner shall be necessary.

Note.—No works for which plans and estimates have not been previously prepared and sanctioned shall be included in the budget.

41. Evidence of Sanction.—Plans and estimates for works estimated to cost less than Rs. 200 shall be signed by the Chairman, the plans and estimates for works estimated to cost Rs. 200 or more shall be signed by the Chairman and by the Deputy Commissioner, in token of approval of design and cost. In the case of original works estimated to cost more than Rs. 500, the professional approval of the municipal engineer, when the market is situated within municipal limits, and in other cases of the district engineer, and in the absence of a municipal engineer or the district engineer, of the executive engineer of the district should be obtained and evidenced by his counter-signature.

42. Supervision of Works.—All works shall be carried out under the supervision of the Chairman.

43. Contracts.—Contracts entered into by the Committee shall ordinarily be reduced to writing, and the provisions of the Stamp and Registration Acts shall be observed. Written contracts shall be signed on behalf of the Committee by the Chairman.

44. Submission of Budget.—(1) For the purposes of these rules, the cotton market year shall be held to commence on the 1st of October and to end on the 30th of September.

(2) The Committee shall annually hold a special meeting in the first week of June to prepare a budget of income and expenditure for the ensuing year. The budget shall be submitted by the 15th of July to the Deputy Commissioner who shall sanction it with such alterations as he may consider proper and shall communicate the sanctioned budget to the Committee. The Committee shall regulate their expenditure in accordance with it. No expenditure shall be incurred for which there is no budget provision unless it can be met by re-appropriation from savings under other heads with the approval of the Deputy Commissioner.

45. Annual Accounts.—The accounts for the past year shall be submitted to the Deputy Commissioner annually along with the budget.

46. Audit.—The accounts of the Committee shall be audited locally by the local audit establishment of the Accountant-General, Central Provinces. At the time of audit, the Chairman or other member of the Committee appointed by the Chairman for this purpose shall cause to be produced all accounts, registers, documents and subsidiary papers which may be called for by the Audit Officer for the purposes of his audit. Any explanation called for by that officer for the settlement of any discrepancy shall also be immediately furnished to him.

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47. **Fees to be Levied.**—The following fees shall be levied in the market on merchandize brought for sale:—

(1) on every boja or package (dokra or akha) of
ginned cotton 6 pies.

(2) on every cart laden with unginned cotton. 1 anna

48. **Recovery of Fees.**—The fees shall be payable as soon as the cotton is brought into the market, and shall be collected in such manner as the Committee may prescribe.

49. **Receipts and Register of Collection.**—A receipt shall be granted to the payer in respect of every fee collected under these rules, and a register of collections shall be kept.

50. **Fees—How Collected.**—The fees shall be collected by paid servants of the Committee, and shall not be farmed out.

51. **Servants to Wear Badges.**—Every servant employed by the Committee for the collection of fees shall wear a badge of office provided by the Committee.

52. **Penalty for Evasion of Payment of Fees.**—Any person practising any device in order to evade or facilitate the evasion of the payment of the fees shall be punishable with fine which may extend to Rs. 50.

53. **Custody of Collections.**—Every person authorized to collect such fees shall be provided with a locked money-box, the key of which shall remain in the charge of the Chairman. The receipts shall be placed in the box by the payer, or in his presence by the person receiving them, and the box shall be opened daily at a fixed hour by the Chairman or such other member of the Committee as may be appointed by the Chairman for the purpose, who will be responsible for comparing the counterfoil receipts and register of receipts with the amount actually received.

54. **Extent of the Market Area.**—For the purposes of these rules, the market entrusted to the management of the Committee shall include—

(1) the market yard, namely, the enclosure bounded by wall or railings known as the cotton market yard;

(2) the market proper, which shall include all land within such radius from the centre of the market yard as the Local Government, may, by notification, prescribe; and in particular shall include all cotton mills, ginning and pressing factories and their compounds within the area so notified; and

(3) the market approaches, which shall include all lands, whether the property of Government, the municipality, the Committee or the district council, within such radius from the centre of the market yard as the Local Government may, by notification, prescribe.

55. **Control of the Market Yard.**—The Committee shall have absolute control of the market yard, and, subject to these rules and to the orders of the Local Government and to such control as is by these rules or by any other law vested in the Deputy Commissioner or in the municipal committee, shall manage it as if it were the private property of the Committee, having regard always to the convenience of

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the cotton trade and the purposes for which the control has been transferred to the Committee. The market yard shall be open for trading at such hours as the Committee may from time to time fix. Carts shall stand in such places and for such times as may be permitted, and ingress and egress shall be permitted to such persons and at such times as the committee may consider proper; provided that no registered cotton trader shall be excluded from the market yard during any time when it is open to the public. The conservancy of the market yard shall be a first charge on the funds at the disposal of the Committee, and the upkeep of roads, wells, water-troughs and buildings shall be wholly charged to that fund, and the Committee shall be responsible for the perfect conservancy of the yard and for the upkeep of the roads, wells, water-troughs and buildings therein.

56. Control of Market Proper and Market Approaches.—(1) In the market proper, the Committee shall exercise only such rights as may be necessary for the convenient control of the market yard and for the convenience and comfort of the persons using the market and for the collection of the fees. The Committee and, if the market is situated within municipal limits, the municipal committee shall be jointly responsible for the conservancy of this area and for the proper repair and upkeep of all public roads in this area; but the cost of such conservancy and the expenditure required for the upkeep of roads in this area shall be borne wholly by the Committee unless the Deputy Commissioner, for reasons to be recorded by him after consulting the Committee and municipal committee, decide otherwise. Subject to police and municipal orders and rules, the Committee may in this area exercise such control over carts, cartsmen and passengers as may be necessary to prevent traffic to and from the market being impeded. They may also prevent any cart laden with cotton, from standing in any portion of the area or entering the area without express permission.

(2) In the market approaches, the Committee shall exercise no control (except that they may regulate the places at which carts laden with cotton shall stand, and the roads by which and the times within which they shall move); but it shall, if the market is situated within municipal limits, out of the funds at its disposal, and to the extent of such funds, make such contribution to the funds of the municipality as may, in the opinion of the Deputy Commissioner, after consultation with the Committee and municipal committee, from time to time appear reasonable, having regard to the filth deposited by, and the wear and tear to roads caused by carts laden with cotton, and the bullocks and attendants appertaining to them.

57. Cotton Traders to Register their Names.—(1) Any person shall, on application at the office of the Committee, be entitled to have his name immediately registered as a cotton trader on his executing an agreement in such form as the Committee may prescribe, agreeing to conform to the market rules, and on his paying the following fee according to the class of the market as determined under Rule 40 (1):—

- (i) for first class markets, a fee of not less than Rs. 200 and not more than Rs. 400, as may be fixed by the Deputy Commissioner; and

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- (ii) for second class markets, a fee of not less than Rs. 100 and not more than Rs. 200, as may be fixed by the Deputy Commissioner.

(2) Such registration shall remain in force from the date on which it takes place until the 30th September following and may be renewed for each succeeding year on payment of the prescribed fee:

Provided that in the case of *adatyas* or agents acting for or employed by more than one person or firm, every such *adaty*a or agent shall make an application at the office of the Committee to have his name registered and on his executing an agreement in such form as the Committee prescribe, agreeing to conform to the market rules, and on his paying such fee, not exceeding Rs. 200 per annum as the Committee with the previous sanction of the Deputy Commissioner may from time to time prescribe, his name shall immediately be registered as a cotton trader, and any such *adaty*a or agent who does not conform or refuses to conform to the conditions of this proviso shall not be entitled to buy or sell in the market on account of his principals or constituents; provided further that the Committee may refuse to register a person as an *adaty*a on any reasonable ground which must be clearly stated by the Committee.

Note.—The rate of *adat* shall be determined by the Committee and shall be subject to the maximum of Re. 1 per cent.

(3) No person shall buy or sell cotton within the market yard unless he is registered as a cotton trader and such registration is in force; provided that a cotton grower may sell his own cotton.

58. Penalty for Disobedience of Orders of Committee.—Any person who disobeys any direction lawfully issued by the Committee or on its behalf under Rule 55 or 56 or who contravenes the provisions of sub-rule (3) of Rule 57 shall be punishable with fine which may extend to ten rupees for the first and to fifty rupees for any subsequent offence.

59. Removal of Names from the Register.—The Committee may remove, either permanently or temporarily, from the register the name of any person registered as a trader who violates the conditions of his agreement. In the event of there being a dispute as to whether the conditions of the agreement have been violated or not, the matter shall, after all the evidence on both sides has been recorded by the Chairman, be referred to the Deputy Commissioner for decision. The Deputy Commissioner shall decide the question after perusing the papers and hearing the parties and his decision shall be final. On the application of the Chairman, the Deputy Commissioner may depute any officer subordinate to him to record the evidence. In the event of the Committee removing the name of any person permanently, confirmation by the Deputy Commissioner shall be necessary and an appeal shall lie to the Commissioner within 45 days from the date of the order of confirmation.

60. Responsibility of Trader for Correct Weighment.—(1) No registered trader shall weigh or cause to be weighed for delivery any cotton purchased or sold by him except on correct scales, and no weights or chains shall be used for such weighment except such weights and chains as have been duly passed for use by such person as the Committee may from time to time appoint.

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(2) Any registered trader evading or attempting to evade this rule shall be held to have violated the conditions of his agreement.

61. Licensing of Brokers.—(1) For the purposes of these rules, a “broker” means any agent (not being a private servant) habitually employed on commission to make contracts for the purchase or sale of cotton for the purchase of which he does not advance any money, or of which he is not entrusted with the possession or documents of title.

(2) A servant or an agent employed to purchase or sell or bargain for cotton on account of others, whether remunerated by fees or not, is not a broker within the meaning of these rules: provided that such servant or agent is employed by only one person or by one firm and that he does not obtain or demand fees from any other person except the one person or firm that employs him.

62. Permission to Practise as a Broker.—No person shall practise as a broker in the market without a licence from the Committee.

63. Restriction in the Number of Licensed Broker.—(1) Such and so many persons as may from time to time appear to the Committee necessary and proper may be licensed to practise as brokers in the market. A licence may be withdrawn at any time by the Committee, but a licence shall not be refused or withdrawn except on reasonable grounds.

(2) Any person feeling himself aggrieved by an order of the Committee passed under sub-rule (1) may prefer an appeal to the Deputy Commissioner within 30 days from the date of such order.

(3) Any person who takes service under a purchaser or who advances money for the purchase, or is entrusted with the possession or documents of title of any cotton in connection with which he is employed shall *ipso facto* cease to be licensed.

(4) A licence granted under this rule shall remain in force from the date on which it is granted until the 30th of September next following and shall be issued and may be renewed for any succeeding year on payment of a fee of Rs. 20 for each year.

64. Punishment for Practising as a Broker without a Licence.—Any person practising in a market as a broker without a licence shall be punishable with a fine which may extend to Rs. 50.

65. Employment of Brokers.—No persons shall, in the absence of express agreement, be bound to employ a broker in any transaction, or be required to pay for a broker employed by any other party to the transaction or to pay for a broker where none is employed.

66. Fees Payable to a Broker.—The following fees may be demanded by a licensed broker on account of his services, when employed, from the person employing him:—

- (a) in respect of service rendered to a purchaser, a fee not exceeding two annas per boja of ginned cotton or per khandi of unginned cotton; and
- (b) in respect of services rendered to a seller, a fee not exceeding two annas per boja of ginned cotton or khandi of unginned cotton:

Provided that the same broker shall not act for both parties.

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67. Punishment for Demanding any Sum not Authorized.—Any licensed broker or *adatya* who demands, receives or retains or allows any other person, to demand, receive or retain, on account of or under the colour of fees due in respect of his services, any sum not authorized under these rules, or from a person who is not liable to pay under these rules, and any person, who, not being a licensed broker, demands, receives or retains or facilitates the demanding, receiving or retaining of such sum, shall be punishable with a fine which may extend to Rs. 50.

68. Unauthorized Demand of Brokerage Fees.—No registered trader or agent or servant of such trader or *adatya* shall solicit or receive any fees for brokerage, on penalty of the removal of such trader's name from the register.

69. Registers and Accounts to be Maintained by Brokers and Adatyas.—Every broker or *adatya* licensed under these rules shall keep such books in such form and render such daily and monthly returns at such time and in such form as the Deputy Commissioner or the Committee may from time to time prescribe, and shall render such assistance in the collection of, and the prevention of the evasion of, fees due under these rules as may be required by the Committee.

70. Licensing of Weighmen.—(1) Such and so many persons as may from time to time appear to the Committee necessary and proper may be licensed to practise as weighmen in the market. A licence may be withdrawn at any time by the Committee, but a licence shall not be refused or withdrawn except on reasonable grounds. No employee or servant of the owner of a ginning factory or pressing factory or of the purchaser of cotton shall be given a licence as a weighman. A licence granted under this rule shall remain in force from the date on which it is granted until the 30th September next following and shall be issued and may be renewed for any subsequent year on payment of a fee of Rs. 5 for each year.

(2) The Committee may at any time decide to restrict the number of licensed weighmen in the market; when any such decision is made, persons who have been longest practising as weighmen shall have a preferential claim to be retained. Between two persons applying for a licence, one who had previously practised as a licensed weighman shall be preferred.

(3) Any person feeling himself aggrieved by an order of the Committee passed under sub-rule (1) or sub-rule (2) may prefer an appeal to the Deputy Commissioner within 30 days from the date of such order.

(4) Licensed weighmen shall carry out their duties according to the instructions of such persons as the Committee may from time to time appoint to supervise the market. Every seller shall be allowed to select his own weighman out of the licensed weighmen of the Committee. Weighmen shall be paid by the sellers alone and no weighman shall work in the same capacity continuously for more than one week.

71. Punishment to Weighmen for Practising without a Licence or without a Badge.—Every licensed weighman shall wear a distinguishing badge of a suitable pattern to be provided by the Committee on payment of a cash deposit of the value of the badge supplied, and any

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person practising in the market as a weighman without a licence or without such distinguishing badge shall be punishable with a fine which may extend to Rs. 50.

72. Weighment by duly Licensed Weighmen.—All weighments in the market shall be carried out by duly licensed weighmen.

73. Fees for Weighment of Cotton.—The fees to be paid for the weighment of cotton shall be at the rates of one anna six pies per boja of ginned cotton or per khandi of unginned cotton.

Note.—The same weighman shall not act for both the buyer and the seller.

74. Punishment of Weighmen.—Any licensed weighman who demands, receives or retains or allows any other person to demand, receive or retain, on account of, or under the colour of, fees due in respect of his services, any sum not authorized under these rules, or a larger sum than is demandable under these rules, or from a person who is not liable to pay under these rules, and any person who, not being a licensed weighman, demands, receives or retains or facilitates the demanding, receiving, or retaining of such sum, shall be punishable with a fine which may extend to Rs. 50.

75. Unauthorized Demand of Weighment Fees.—No registered trader or *adatya* or agent or servant of such trader or *adatya* shall solicit or receive any fees on account of weighment on penalty of the removal of such trader's name from the register.

76. Registers and Accounts to be Maintained by Weighmen.—Every licensed weighman shall keep such books in such form and render such daily and monthly returns at such time and in such form as the Deputy Commissioner or the committee may from time to time prescribe, and shall render such assistance in the collection of, and the prevention of, the evasion of fees due under these rules and in the prevention of any breach of the rules as may be required by the committee. Such returns shall show the name of the owner, number of carts and amount of cotton weighed.

77. Definition of Maund, Boja and Khandi.—A maund means 28 lbs. (avoirdupois) of unginned cotton or cotton seed. A boja means 392 lbs. (avoirdupois) of ginned cotton and a khandi means 784 lbs. (avoirdupois) of unginned cotton or cotton seed.

78. Description of Weights to be Used.—The following descriptions of weights shall alone be used for the weighment of cotton in bulk in the market:—

(a) 7 maunds weight of 196 lbs.	(avoirdupois).
(b) 5 maunds weight of 140 lbs.	(avoirdupois).
(c) 4 maunds weight of 112 lbs.	(avoirdupois).
(d) 2 maunds weight of 56 lbs.	(avoirdupois).
(e) 1 maund weight of 28 lbs.	(avoirdupois).
(f) 2 dhara weight of 14 lbs.	(avoirdupois).
(g) 1 dhara weight of 7 lbs.	(avoirdupois).
(h) 4 lbs. weight of 4 lbs.	(avoirdupois).
(i) 2 lbs. weight of 2 lbs.	(avoirdupois).
(j) 1 lb. weight of 1 lb.	(avoirdupois).
(k) Chain weighing 10 lbs.	(avoirdupois).

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79. A Set of Authorized Weights to be Kept by the Committee.—

The committee shall keep at least one set of authorized weights which shall be available to the public for comparison with their own weights at all reasonable hours. The weights in use shall be inspected by the committee at the beginning of every year and shall be sealed by the committee.

80. Counter-balancing in Weighment.—A weight equivalent to the weight of the rope which is used to suspend a bundle of cotton (dokra) on the weighing side of the scales shall be added to the weight side of the scales in order to counterbalance the weight of such rope.

81. Unauthorized Weights.—Weights of the above description are authorized. All weights intended to be used for, or capable of being used for, the weighment of cotton in bulk which do not answer to one of the above descriptions are unauthorized.

82. Weighment on a Weighbridge.—(1) Where, in the opinion of the Local Government, funds at the disposal of the committee permit, the committee shall erect one or more weighbridges in the market and shall be responsible for keeping them in proper working order. Any buyer or seller may, at his option, have his cotton load weighed on it on payment of the following fees:—

(a) for every cart laden with unginced cotton. 1 anna.

(b) for every boja or package of ginned cotton 6 pies.

The fee shall be paid to such persons as may be appointed by the committee who shall give a receipt for the amount paid.

(2) When such fee has been paid for weighment of a loaded cart, that cart, when empty, shall be weighed free of charge.

83. Inspection of Scales & Weights.—The Chairman, every member of the committee, and every employee of the committee authorized by the committee in this behalf, shall be entitled, at any time and without notice to inspect, examine and test any scale or weight used, kept or possessed in any open place within the limits of the market.

84. Production of Scales & Weights for Inspection.—Every registered cotton trader residing or trading within the limits of the market shall, on a requisition in writing being made to him by the chairman or by any two members of the committee, immediately produce for examination all scales and weights used, kept or possessed by him, or by any person or persons under his authority or control and shall allow the said chairman or members to inspect, examine and test them.

85. Confiscation of Incorrect Scales and Weights.—If any scale be found on examination to be untrue or any weight be found on examination to be unauthorized or incorrect, the scale or weight shall be seized and a report, in the following form, shall be forthwith forwarded to such Magistrate as the Deputy Commissioner may from time to time appoint, and the Magistrate shall order the confiscation and destruction of such scales or weights, or make such other order as may appear proper:—

1. Name of person from whom the scales or weights are seized.
2. Description of the untrue weights or scales.

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3. Date of seizure.
4. Person by whom seized.
5. Persons in whose presence seized.
6. Why seized.
7. Remarks.

Witnesses. Signature of the persons making the report.

Note.—The report shall be signed by the persons making it and shall be attested by the persons in whose presence the weights or scales were seized.

86. Inspections of Scales or Weights.—Whoever does not produce, or obstructs the production of any scale or weight for examination or does not allow the examination, inspection or testing of any scale or weight or obstructs the seizure of any scale or weight which is found to be false, incorrect or unauthorised, shall be punishable with a fine which may extend to Rs. 50.

87. Penalties for Possession or use of Incorrect Scales or Weight.—Whoever being a licensed broker or a licensed weighman or registered cotton trader shall, in his possession, keep or use any scale or weight which is false, incorrect or unauthorized, shall be punishable with a fine which may extend to Rs. 50.

88. Conviction not to Bar Prosecution under Other Laws.—A conviction, under rule 87, shall not bar a prosecution under the Indian Penal Code or under any other law by which the offender may be liable to punishment.

89. Trade Allowance.—No licensed broker, licensed weighman or cotton trader, whether registered or not, shall be allowed to demand, take or retain any trade allowance not specifically authorized by any rule or any unpaid-for sample in connection with any cotton transaction entered into the market. All unpaid-for samples shall be returned to the consignment and weighed with it, and any person demanding, taking or retaining such trade allowances or unpaid-for samples or assisting or abetting any other person in demanding, taking or retaining such trade allowances or unpaid-for samples, or in any way facilitating or conniving at the demanding, taking or retaining of such trade allowances or unpaid-for samples, shall be punishable with a fine which may extend to Rs. 50.

90. Samples.—A sample which it is intended to pay for on weightment shall not be deemed to be an unpaid-for sample.

91. Bargains how Settled.—(1) The price of cotton shall be settled in open market, that is, the market yard, and no deduction shall be made from the agreed price of the consignment except for the inferior quality of cotton as compared with the sample on the basis of which the purchase was made or for damage including excessive moisture.

(2) The price shall be settled openly and not by any secret signs.

(3) Brokers or *adatyas* shall not directly or indirectly purchase or sell cotton in their own name or in the name of others.

(4) Payment to a seller shall be made the same day direct by the purchaser if the seller so desires.

92. Accounts of Sales to be Maintained.—A proper account of each individual cart-load shall be maintained by the committee and entered in a book which may be prescribed for the purpose and no

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collective entries shall be made in it. When a cart has entered the market and its load has been purchased, it shall not be allowed to go out except on the presentation of a pass at the gate of the market. The pass shall be printed in duplicate and shall specify the names of the buyer and seller and the rate at which the buyer has agreed to purchase the load. The signature of the buyer shall be taken on both copies of the form of the pass and the duplicate shall be handed over to the seller for presentation at the gate, the original being retained for record by the committee. The records of individual sales shall be posted up from these passes.

93. Agreement to be Executed Between Buyer and Seller.—Every purchaser shall sign an agreement in the form below in favour of the seller before removing from the cotton market any cotton that has been purchased. Printed forms of agreement shall be supplied to the purchaser free of cost by the committee:—

FORM

Name of seller.....
Name of buyer.....
Rate per khandi or boja.....
Signature of committee's servant.

I do hereby agree that, when the aforesaid seller's cotton comes to be unloaded, if I refuse to take it at the price agreed upon, the matter shall be referred to the committee appointed for the purpose under rule 21 (3) whose decision shall be binding on me.

Signature of the purchaser.....

94. Fine for Dharmadaya or Similar Deductions.—No purchaser, trader, or broker of cotton shall be allowed to make any deductions on account of any charity fund from the agreed price of cotton with or without the consent of the seller. Any person violating this rule shall be punishable with a fine which may extend to Rs. 50.

95. Publication of the Official Closing Price.—The official closing price of the previous evening of the East Indian Cotton Association, Bombay, and the New York Futures shall be published each morning, before the usual time of opening the market, and along with it a calculation showing the parity price for cotton in the local market. This shall be published in such a manner as to be readily available to all persons in the market, and the committee shall appoint one of its servants to be responsible for seeing that this is done.

96. No prosecution shall be instituted for any breach of these rules without the previous sanction of the committee or of the chairman or other officer authorized by the committee in this behalf. No prosecution shall be instituted against a registered trader until he has been given an opportunity of explaining his conduct and then only under the special orders of the committee passed at a special meeting of which notice shall be given to all members: provided always that a prosecution for any offence under these rules may be instituted by the Deputy Commissioner with or without reference to the committee.

By order of the Government
(Ministry of Education)

A. MCDONALD.
Revenue Secretary to Government,
Central Provinces.

APPENDIX F.

Draft of a Bill to Encourage the Establishment of Independent Warehouses in India and Provide for their Proper Supervision and Control.

Whereas it is expedient to encourage the establishment of independent Warehouses in India, and arrange for their proper supervision and control, it is hereby enacted as follows:—

1. (1) This Act may be called the Indian Licensed Warehouses Act.

(2) It shall extend to the whole of British India and shall come into force from.....

2. In this Act, unless there is anything repugnant to the subject or the context

(a) “warehouses” will mean every building, structure or other protected enclosure in which any raw produce or manufactures are stored,

(b) “person” will include two or more persons acting in partnership or a Company registered under the Indian Companies Act, 1913,

(c) “warehouseman” means a person lawfully engaged in the business of storing goods and merchandise including agricultural produce,

(d) “receipt” means receipt issued by the proprietor of a warehouse for goods entrusted to him for storage.

3. The Governor General in Council may on application to him issue to any warehouseman a Licence for the conduct of a warehouse or warehouses in accordance with this Act and such rules and regulations as may be made hereunder, provided that such warehouse is found suitable for the storage of the goods or merchandise named in the Application for Licence and the warehouseman agrees to comply with and abide by all the terms of this Act and the rules and regulations made in pursuance of the same,

Provided further that each such Licence shall be on such terms and for such period as the Governor General in Council may deem fit and such Licence may be renewed extended or modified from time to time at the discretion of the Governor General in Council.

4. The Governor General in Council is hereby authorised

(a) upon application of any person for a Licence to inspect or cause to be inspected the warehouse or warehouses contemplated in such application,

(b) at any time and from time to time to order inspection of any warehouse or warehouses licensed under this Act,

(c) to determine whether warehouses already licensed or for which licences may have been applied for are suitable for the proper

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storage of the particular class of goods or merchandise contemplated in the Licence or Application for Licence,

(d) to classify warehouses licensed under this Act according to ownership, location, construction, surroundings, capacity and other qualities,

(e) to prescribe within the limitations of this Act the duties of the warehouseman conducting warehouses Licensed under this Act,

(f) to suspend, and if necessary, to revoke any licence granted under this Act for any breach of the provisions of this Act or of the rules and regulations made hereunder.

5. The Governor General in Council shall be entitled to collect a reasonable fee for examination, or inspection, of any warehouse that is the subject of an application for a Licence under this Act and shall also be entitled to collect a fee of not exceeding Rs. per annum for each licence or renewal thereof under this Act.

6. The Governor General in Council may upon presentation of satisfactory proof of competency issue to any person a Licence to inspect sample and/or classify any agricultural product or products stored or to be stored in the warehouse licensed under this Act according to condition, grade or otherwise and to weigh the same and to certify the weight thereof upon condition that such person agrees to comply with and abide by the terms of this Act and the rules and regulations prescribed hereunder so far as the same may relate to him.

7. The Licence of any such person licensed under clause 6 may be suspended or revoked by the Governor General in Council if he is satisfied that such Licensee has failed correctly to inspect, sample, classify or weigh any agricultural product or products or has violated any of the provisions of this Act or of the rules and regulations made hereunder or has used his Licence or allowed it to be used for any improper purpose whatsoever.

8. Every warehouseman conducting a warehouse licensed under this Act shall receive for storage therein so far as its capacity permits any goods or merchandise of the kind customarily stored therein by him which may be tendered to him in a suitable condition for warehousing in the usual manner in the ordinary course of business without making any discrimination between persons desiring to avail themselves of warehouse facilities.

9. Every person who deposits goods or merchandise including raw agricultural products in the warehouse licensed under this Act shall be deemed to have deposited the same subject to the terms of this Act and the rules and regulations prescribed hereunder.

10. For all goods and merchandise including agricultural products stored in a warehouse licensed under this Act original receipts shall be issued by the warehouseman conducting the same but no receipt shall be issued for any such goods and merchandise or agricultural products unless the same are actually stored in the warehouse at the time of issuance thereof.

11. Every such receipt shall embody the following particulars namely—

(a) location of the warehouse,

APPENDIX F

- (b) date of issue of receipt,
- (c) consecutive serial number of receipt,
- (d) statement whether the subject-matter of the receipt is deliverable to bearer or to a specified person or to his order,
- (e) rate of storage charges,
- (f) marks, number and weight of packages received provided however that where it is some agricultural products in bulk the description and quantity thereof shall suffice,
- (g) the class and grade of any agricultural product received for storage where the depositor wishes it to be shown on such receipt in which case it shall be as certified by a person licensed under clause 6 of this Act,
- (h) a statement that the receipt is issued subject to this Act and the rules and regulations made hereunder,
- (i) if the warehouseman is owner or joint owner of any goods, the subject-matter of such receipt a statement to that effect,
- (j) a statement of the amount of advance made to the depositor or any other liability by the depositor due to the warehouseman for which he claims a lien provided however that where the precise amount cannot be ascertained at date of issue of such receipt a statement that lien is claimed will suffice,
- (k) such other terms and conditions as may be laid down by the Governor General in Council in this behalf,
- (l) signature of the warehouseman or of some person duly authorised by him and the number of his licence.

12. So long as an original receipt issued under this Act is outstanding and uncanceled by the warehouseman himself no other or further receipt shall be issued in respect of the same goods, merchandise or produce, provided, however, that in case a receipt is lost or destroyed a fresh receipt may be issued in identical terms and bearing the same date and number as the original on satisfactory security being given by the person asking for such duplicate on lines laid down in the rules and regulations made in pursuance of this Act.

13. Upon demand made by the holder of any such receipt and offer to surrender such receipt with such endorsement if negotiable as may be necessary and upon readiness to satisfy the warehouseman's lien and/or charges, and give proper acknowledgment or discharge the warehouseman shall forthwith deliver the goods that may be the subject-matter of such receipt provided, however, that all such receipts that come back into his hands duly discharged shall be forthwith cancelled by the warehouseman and preserved on his record for at least three calendar years from date of such discharge.

14. Every warehouseman licensed under this Act shall keep in a place of safety complete and correct records of all agricultural products stored therein and withdrawn therefrom and of all receipts issued by him and of receipts returned and cancelled and shall conduct the warehouse in all respects in compliance with this Act and the rules and regulations made hereunder.

15. Every licensed warehouseman shall report to the Governor General in Council the condition of his warehouse or warehouses,

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and the contents, operation and business thereof in such form and at such times as the Governor General in Council may require.

16. The Governor General in Council may cause an inspection or examination to be made of any warehouse licensed hereunder and of the goods stored therein and of the books and records thereof at any time by person or persons appointed by him in that behalf.

17. Whenever as a result of such examination it is found that a warehouseman is not conducting his warehouse in accordance with this Act or the rules and regulations made hereunder or that he is charging unreasonable and exorbitant rates the Governor-General in Council may order his Licence to be suspended, and if satisfactory explanation of the breach of this Act or of the rules and regulations made hereunder is not forthcoming, may order such Licence to be revoked.

18. The Governor General in Council may order to be published in the Gazette of India the result of any investigations under Clause 3 or under Clauses 16 and 17. There shall also be published in the Gazette of India the names and locations of warehouses licensed hereunder with the names and addresses of the Licensees as also a list of all licences revoked or terminated under this Act and the reason therefor.

19. The Governor General in Council shall from time to time make such rules and regulations as may appear to him advisable for the proper carrying out of the provisions of this Act.

20. Every person who shall forge, alter, counterfeit, stimulate or falsely represent or otherwise unlawfully use any Licence issued by the Governor General in Council under this Act or shall issue or utter a false or fraudulent receipt or certificate and every person who shall without lawful authority convert to his own use or use for the purpose of securing a loan or remove from a Licensed Warehouse contrary to this Act or the rules and regulations made hereunder any goods or merchandise stored or to be stored in such warehouse and for which Licensed Receipts have been or are to be issued shall be deemed guilty of a misdemeanour and shall upon conviction be liable to a fine not exceeding ten thousand rupees or double the value of the goods or merchandise involved whichever is the greater or imprisonment for a period not exceeding twelve months or both at the discretion of the Court and the owner of the goods or merchandise so converted used or removed may in the discretion of the Governor General in Council be reimbursed out of the fines so collected to the extent that he may not otherwise have been reimbursed.

21. Any person who shall with intent to deceive draw a false sample or shall wilfully mutilate or falsely represent a sample drawn under this Act or shall classify grade or weigh fraudulently any agricultural products stored or to be stored under the provisions of this Act shall be deemed guilty of a misdemeanour and upon conviction be liable to a fine of rupees five hundred or imprisonment for three months or both in the discretion of the Court.

22. It shall be open to the Governor General in Council to offer an inducement to the establishment of Licensed Warehouses as contemplated in this Act by way of grant of land free or at a nominal rental or by a subsidy towards the cost of construction or

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by guarantee of reasonable return of the total capital invested or in any other way that may appear most suitable to the Governor General in Council in such place or places and on such terms and conditions as may appear desirable to the Governor General in Council provided, however, that where the inducement to be offered is a guarantee of a reasonable return on capital it shall not exceed a return of more than five per cent. per annum and provided further that where any payment by the Governor General in Council becomes necessary under any such guarantee, a separate account shall be kept of the same and Government shall be entitled to one-half of all earnings of any warehouse so guaranteed in excess of a return of six per cent. on the capital invested until the amount paid to such warehouse in order to implement the guarantee given to it and standing at the debit of such separate account shall have been entirely wiped off.*

* The above is the text of a Bill to encourage the establishment of independent warehouses in India submitted by the late Mr. B. F. Madan to the Indian Central Banking Inquiry Committee.

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